

10752061

202-293-7060

FIG.1

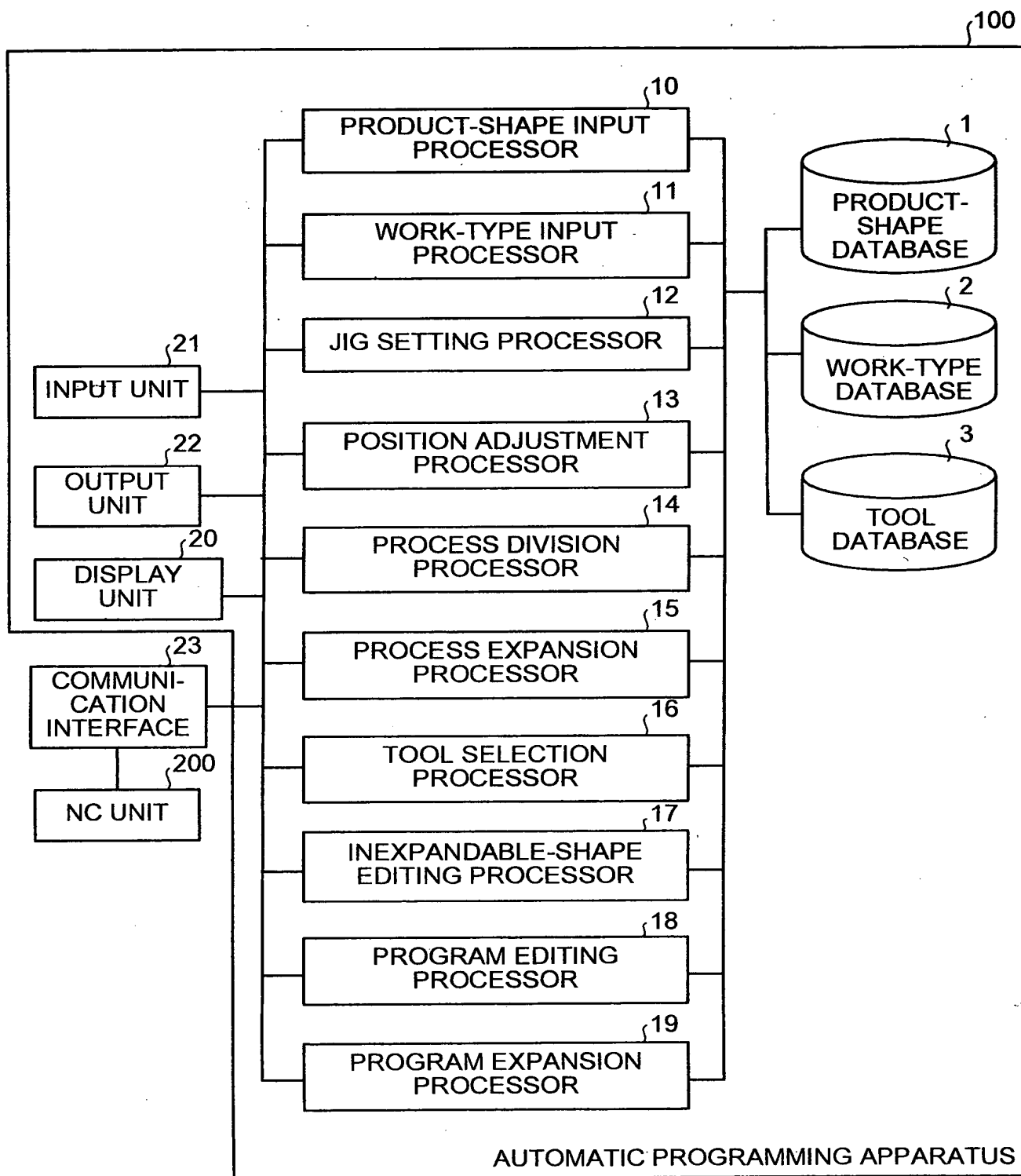
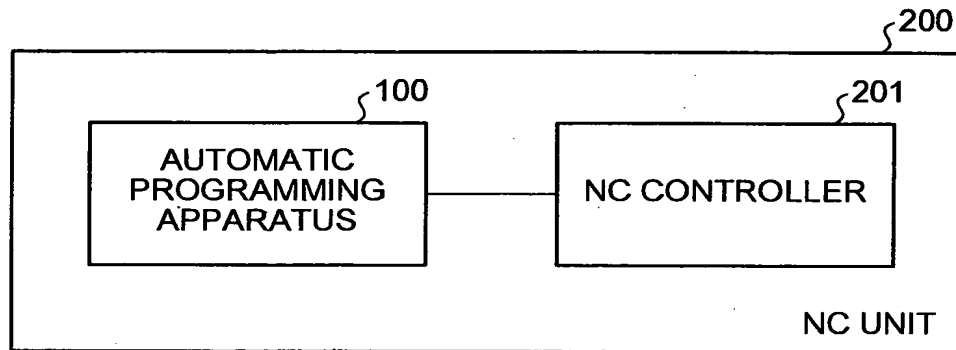
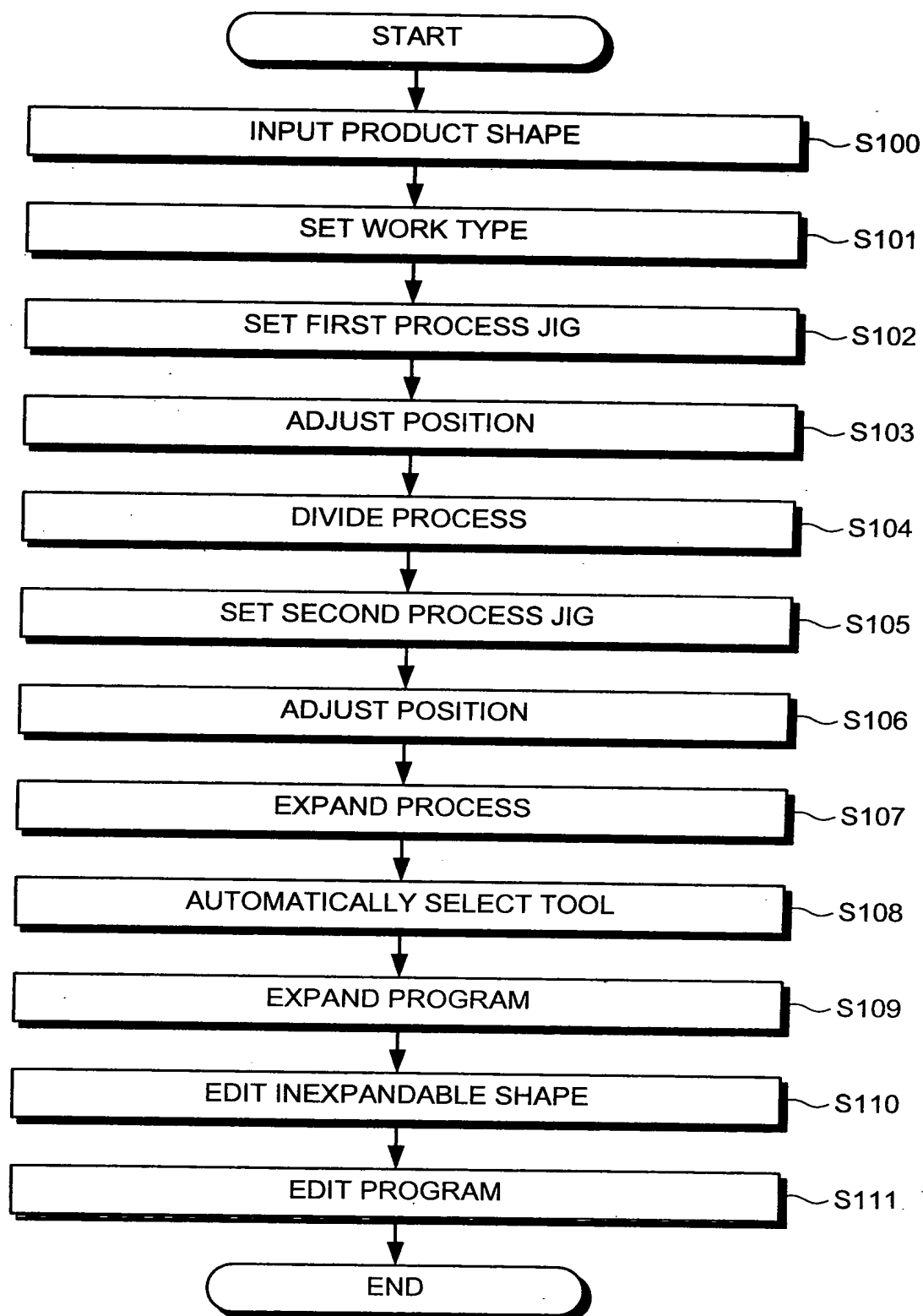


FIG.2



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FIG.3



# FIG.4

MENU SELECTION MAIN SCREEN

File(E) Help(H)

3D SHAPE

PROGRAM

3D SHAPE

BASIC SHAPE

PRODUCT SHAPE

WORK SHAPE

FIXTURE SHAPE

FIRST FIXTURE

FIRST PROCESS MACHINING SHAPE

3 END FACE

4 TURNING DRILL

6 BAR

8 BAR

9 DRILL

SECOND PROCESS MACHINING SHAPE

13 END FACE

14 TURNING DRILL

16 BAR

18 BAR

21 END MILL FACE

23 END MILL FACE

25 END MILL FACE

28 POCKET MILL

30 POCKET MILL

33 POCKET MILL

35 POCKET MILL

38 POCKET MILL

41 HOLE WITH WASHER

43 HOLE WITH WASHER

45 HOLE WITH WASHER

47 HOLE WITH WASHER

50 DRILL

52 DRILL

2D

3D

6g

6h

6i

6j

6k

6a

6b

6c

6d

6e

6f

6g

6h

6i

6j

6k

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FIG.5

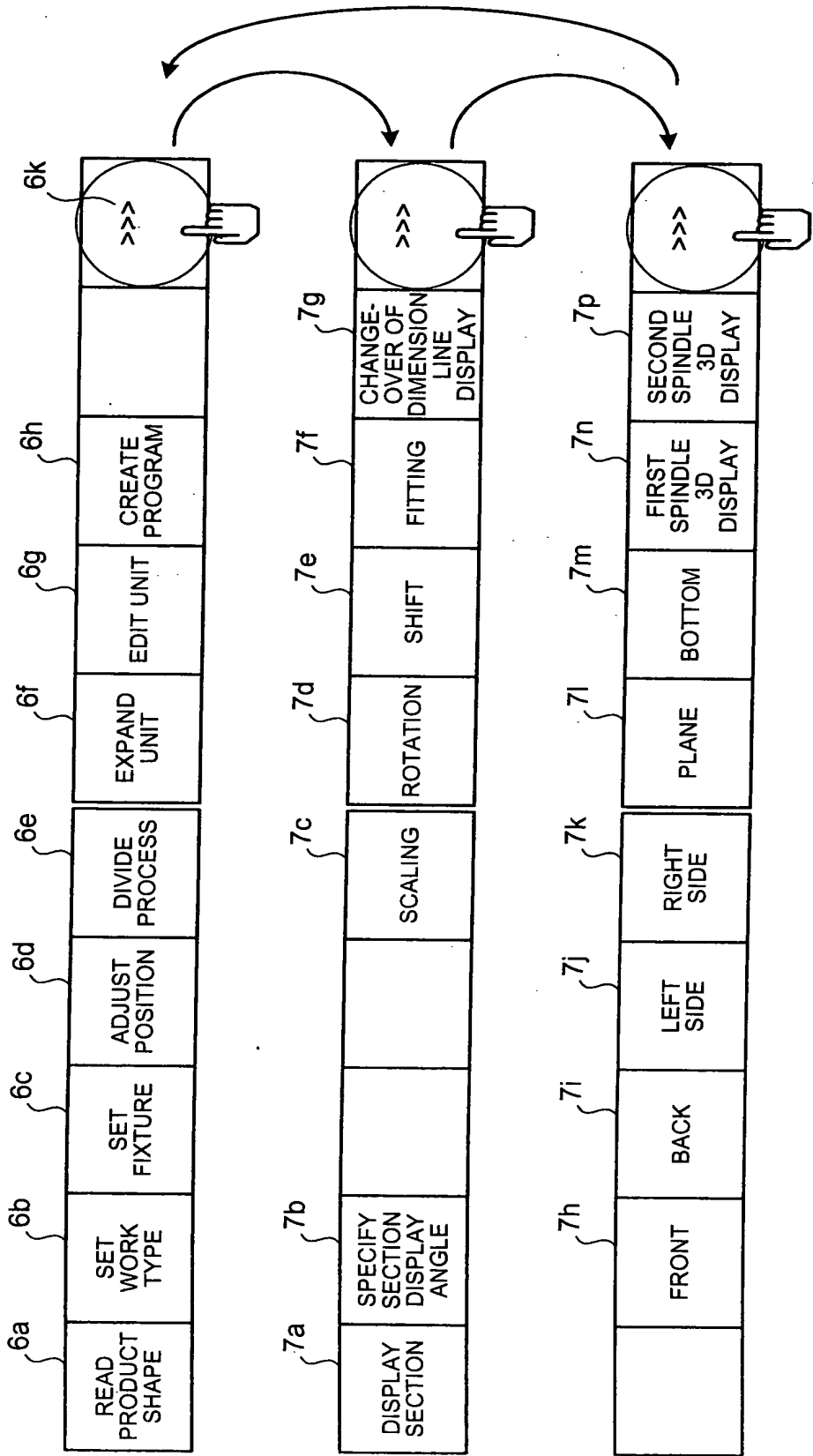


FIG.6

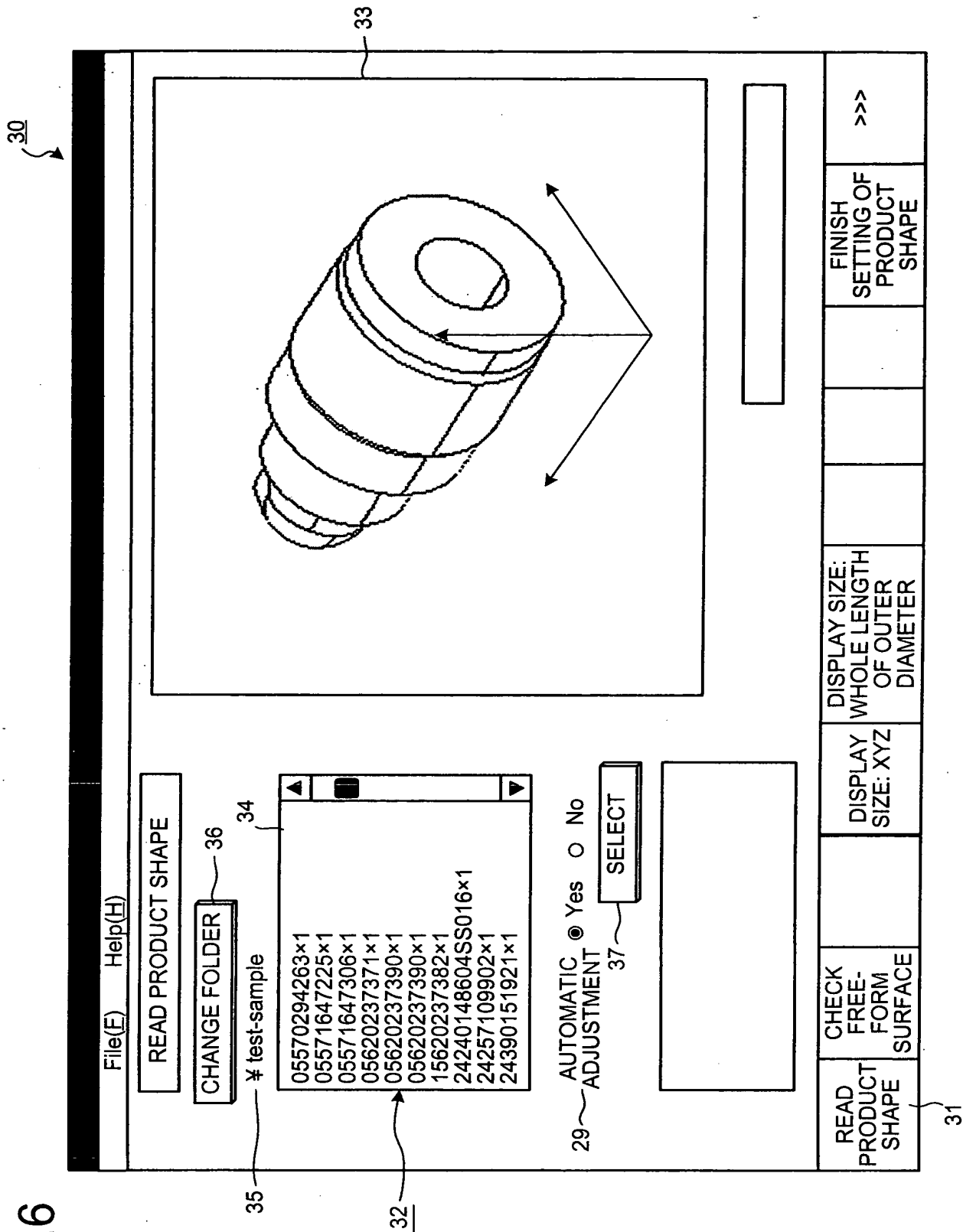


FIG.7

9

9a 9b 9c 9d 9e 9f 9g

WORK DATABASE SET PARTIAL WORK READ WORK MODEL SET WORK MATERIAL EDIT CHANGE MACHINING ALLOWANCE

WORK TYPE SETTING

PRODUCT SHAPE X 100 Y 100 Z 100

No.	WORK MATERIAL	TYPE	OUTER DIAMETER	INNER DIAMETER	LENGTH
1	A7075	ROUND BAR	110.000	0.000	130.000
2	A5056	ROUND BAR	110.000	0.000	130.000
3	A7075	ROUND BAR	120.000	0.000	130.000
4	A5056	ROUND BAR	120.000	0.000	130.000
5	CBN STL	ROUND BAR	120.000	0.000	130.000
6	STNLESS	ROUND BAR	130.000	0.000	130.000
7	STNLESS	ROUND BAR	140.000	0.000	130.000
8	A7075	ROUND BAR	150.000	10.000	130.000
9	A7075	ROUND BAR	150.000	10.000	130.000
10	A7075	ROUND BAR	150.000	10.000	130.000
11	A7075	ROUND BAR	150.000	10.000	130.000
12	A5056	ROUND BAR	120.000	0.000	130.000

301 303 300 302

WORK TYPE SETTING

No. 3

WORK MATERIAL A7075

WORK TYPE ROUND BAR

OUTER DIAMETER 120

INNER DIAMETER 0

LENGTH 130

END-FACE MACHINING ALLOWANCE 0

OK

304 3 OK

FIG.8

WORK SHAPE

MATERIAL	TYPE	OUTER DIAMETER	INNER DIAMETER	.....
CBN STL	Cylinder	250	20	
CBN STL	Cylinder	250	30	
CBN STL	Cylinder	250	40	
CBN STL	Cylinder	250	50	
CBN STL	Cylinder	400		
CBN STL	Cylinder	400	30	
CBN STL	Cylinder	500		
CBN STL	Cylinder	800	70	
CBN STL	Cylinder	800	100	
CBN STL	Hexagon	300		
CBN STL	Hexagon	300		
CBN STL	Hexagon	400		



FIG.9

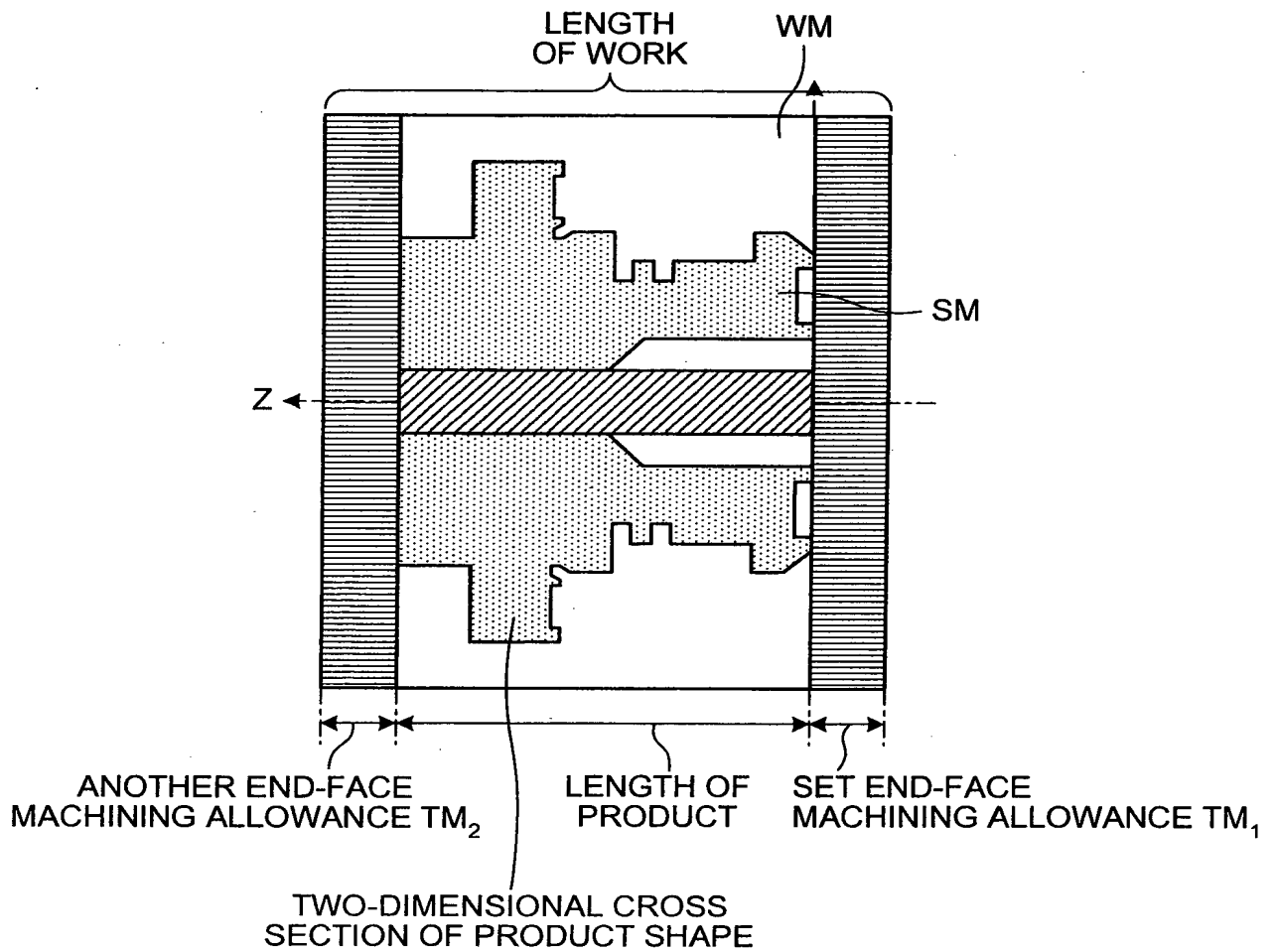


FIG.10

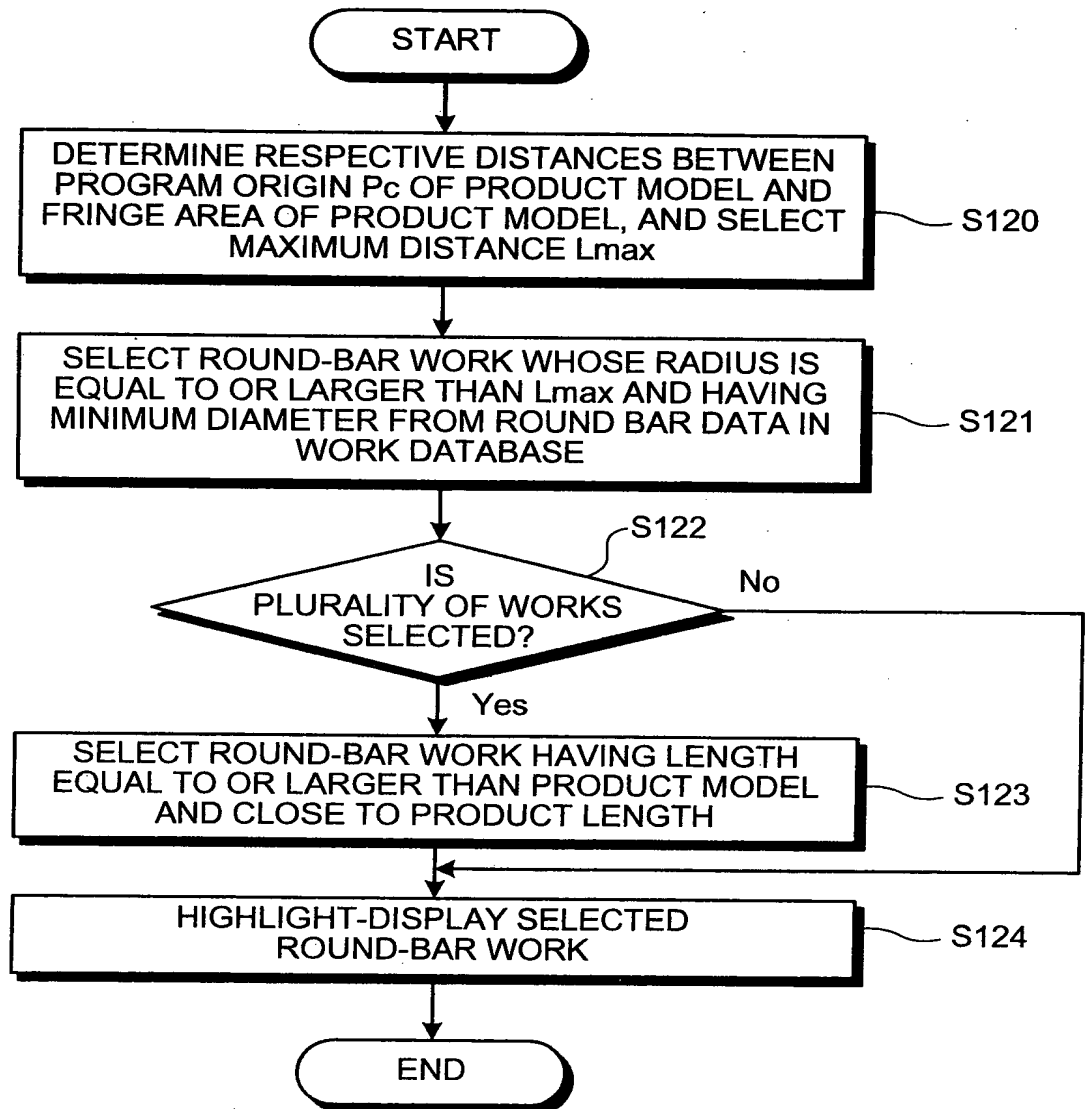


FIG.11

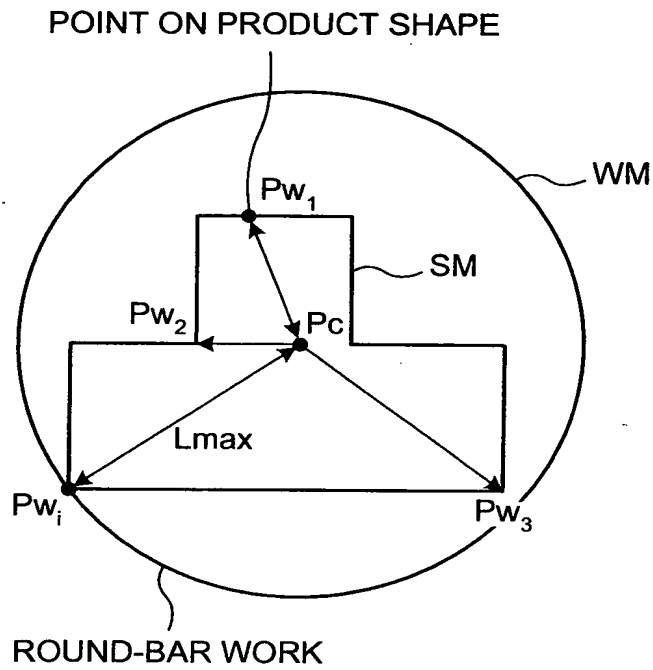


FIG.12

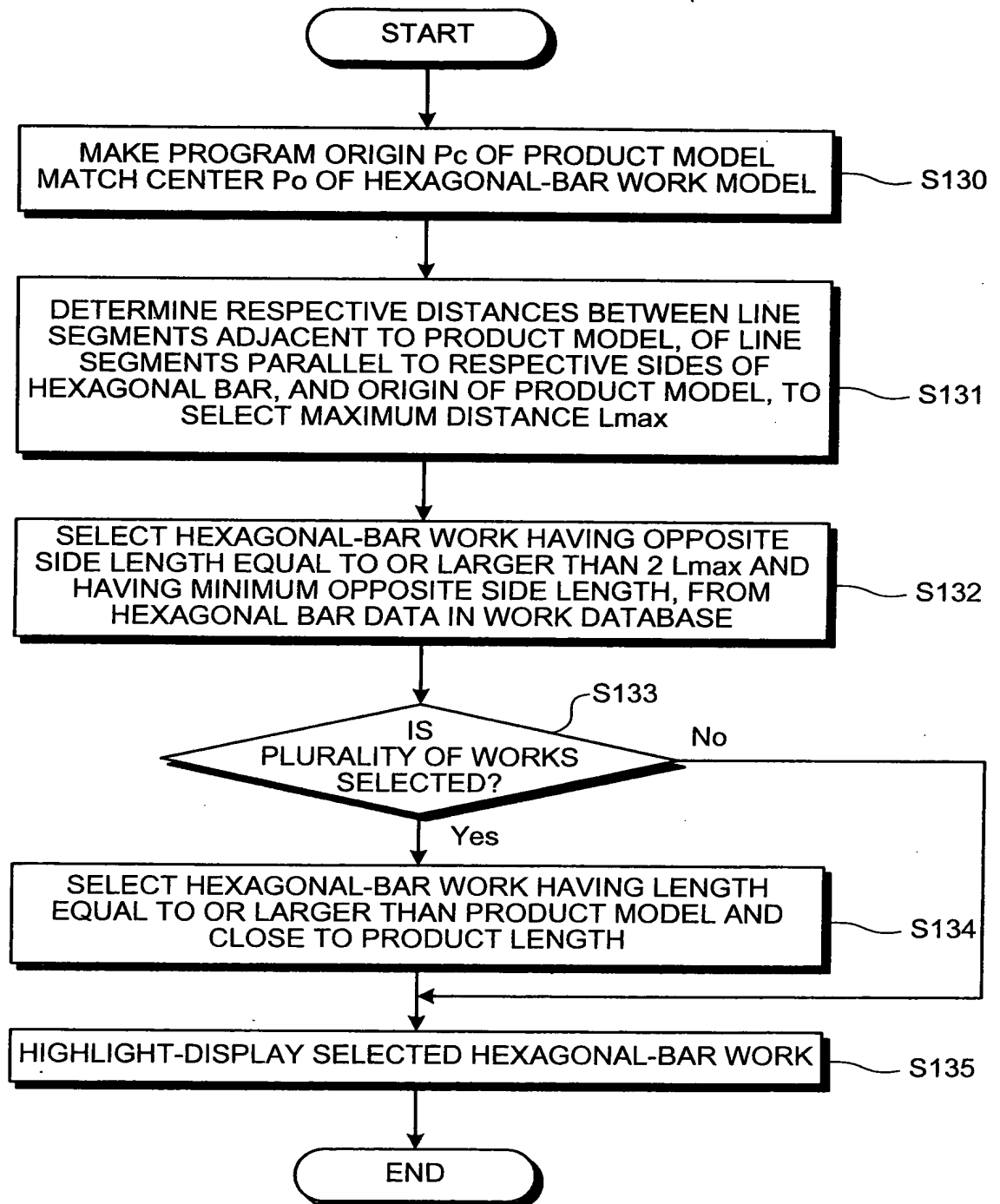




FIG.14

9a

9b

9c

9d

9e

9f

9g

9h

9i

WORK DATABASE

SET PARTIAL WORK

READ WORK MODEL

SET WORK MATERIAL

EDIT

CHANGE MACHINING ALLOWANCE

WORK TYPE SETTING

PRODUCT SHAPE

X

Y

Z

100

100

100

301

303

300

302

304

305

No.	WORK MATERIAL	TYPE	OUTER DIAMETER	INNER DIAMETER	LENGTH
3	A7075	ROUND BAR	120.000	0.000	130.000
9	A5056	ROUND BAR	120.000	0.000	140.000
100	CBN STL	ROUND BAR	120.000	0.000	150.000
5	STNLESS	ROUND BAR	130.000	0.000	130.000
15	STNLESS	ROUND BAR	140.000	0.000	130.000
20	A7075	ROUND BAR	150.000	10.000	130.000
23	A7075	ROUND BAR	150.000	10.000	160.000
91	A7075	ROUND BAR	150.000	10.000	160.000
94	A7075	ROUND BAR	150.000	10.000	170.000

No.

3

WORK MATERIAL

A7075

WORK TYPE

ROUND BAR

OUTER DIAMETER

120

INNER DIAMETER

0

LENGTH

130

END-FACE MACHINING ALLOWANCE

0

OK

3

OK

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FIG.15

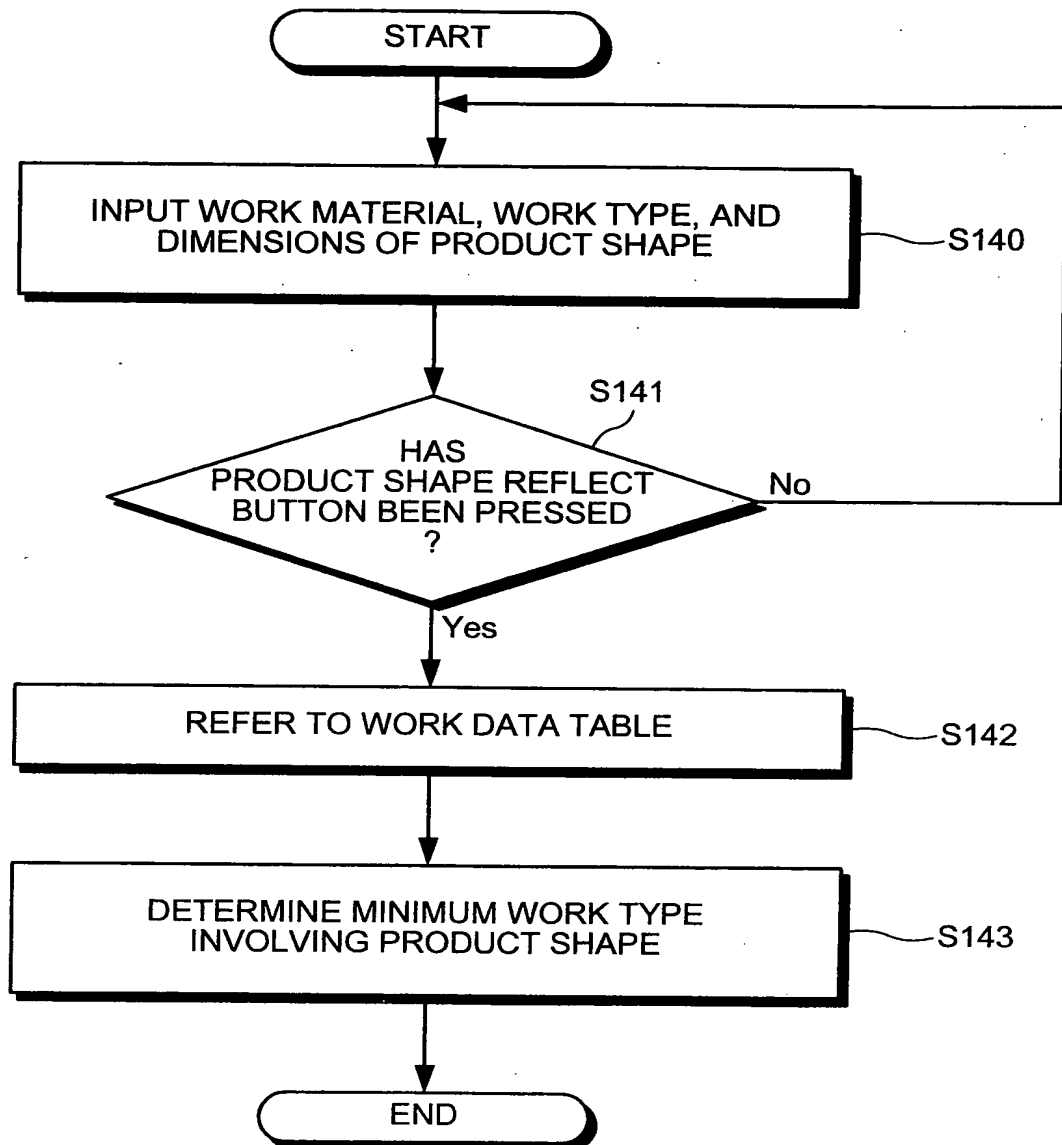


FIG.16

40

43

WORK TYPE SETTING

REFLECT PRODUCT SHAPE

PRODUCT SHAPE

X 180

Y 180

Z 150

41

WORK MATERIAL

44 CBN STL

WORK TYPE

45 ROUND BAR

OUTER DIAMETER

46 254.5584

INNER DIAMETER

47 0

LENGTH

48 150

END-FACE MACHINING ALLOWANCE

49 0

42

CBN STL	ROUND BAR	OUTER DIAMETER	250.0	INNER DIAMETER	20.0	
CBN STL	ROUND BAR	OUTER DIAMETER	250.0	INNER DIAMETER	30.0	
CBN STL	ROUND BAR	OUTER DIAMETER	250.0	INNER DIAMETER	40.0	LENGTH 800.0
CBN STL	ROUND BAR	OUTER DIAMETER	250.0	INNER DIAMETER	50.0	LENGTH 800.0
CBN STL	ROUND BAR	OUTER DIAMETER	400.0	INNER DIAMETER	0.0	
CBN STL	ROUND BAR	OUTER DIAMETER	400.0	INNER DIAMETER	30.0	
CBN STL	ROUND BAR	OUTER DIAMETER	500.0	INNER DIAMETER	0.0	LENGTH 500.0
CBN STL	ROUND BAR	OUTER DIAMETER	800.0	INNER DIAMETER	70.0	LENGTH 300.0
CBN STL	ROUND BAR	OUTER DIAMETER	800.0	INNER DIAMETER	100.0	LENGTH 500.0

50

58

CREATE



FIG.17

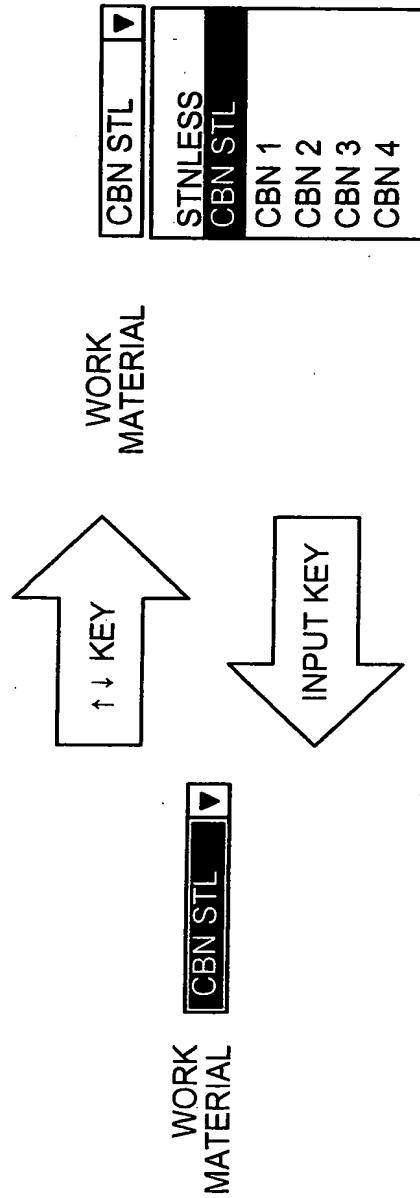


FIG.18

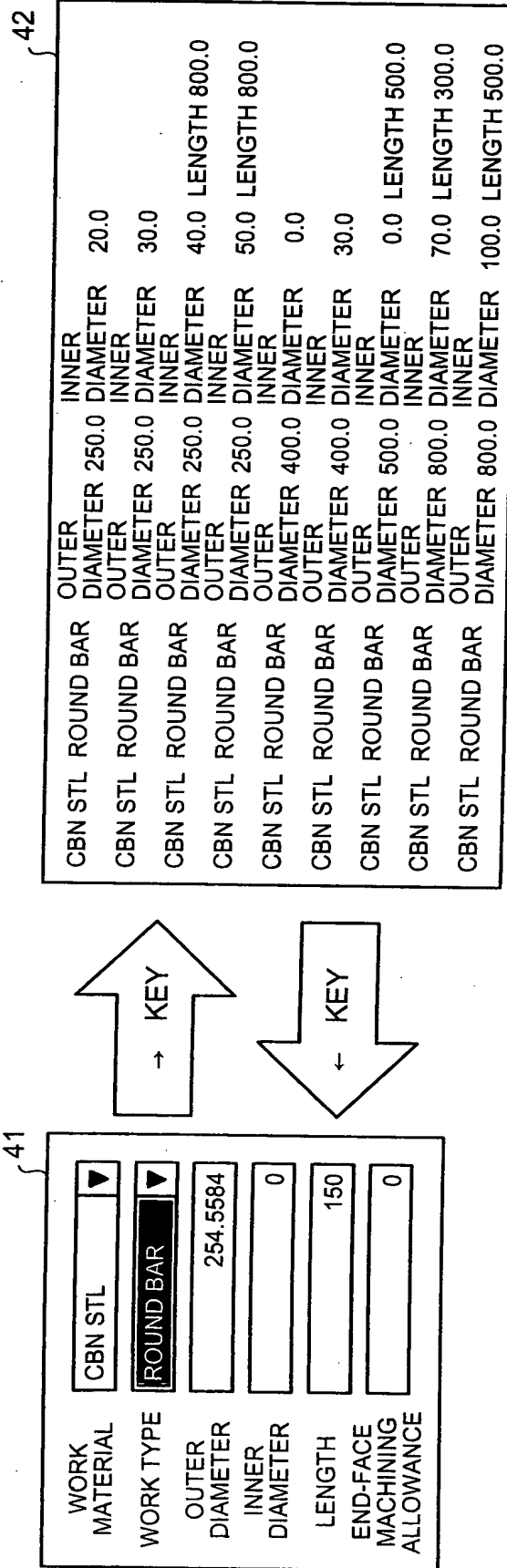


FIG.19

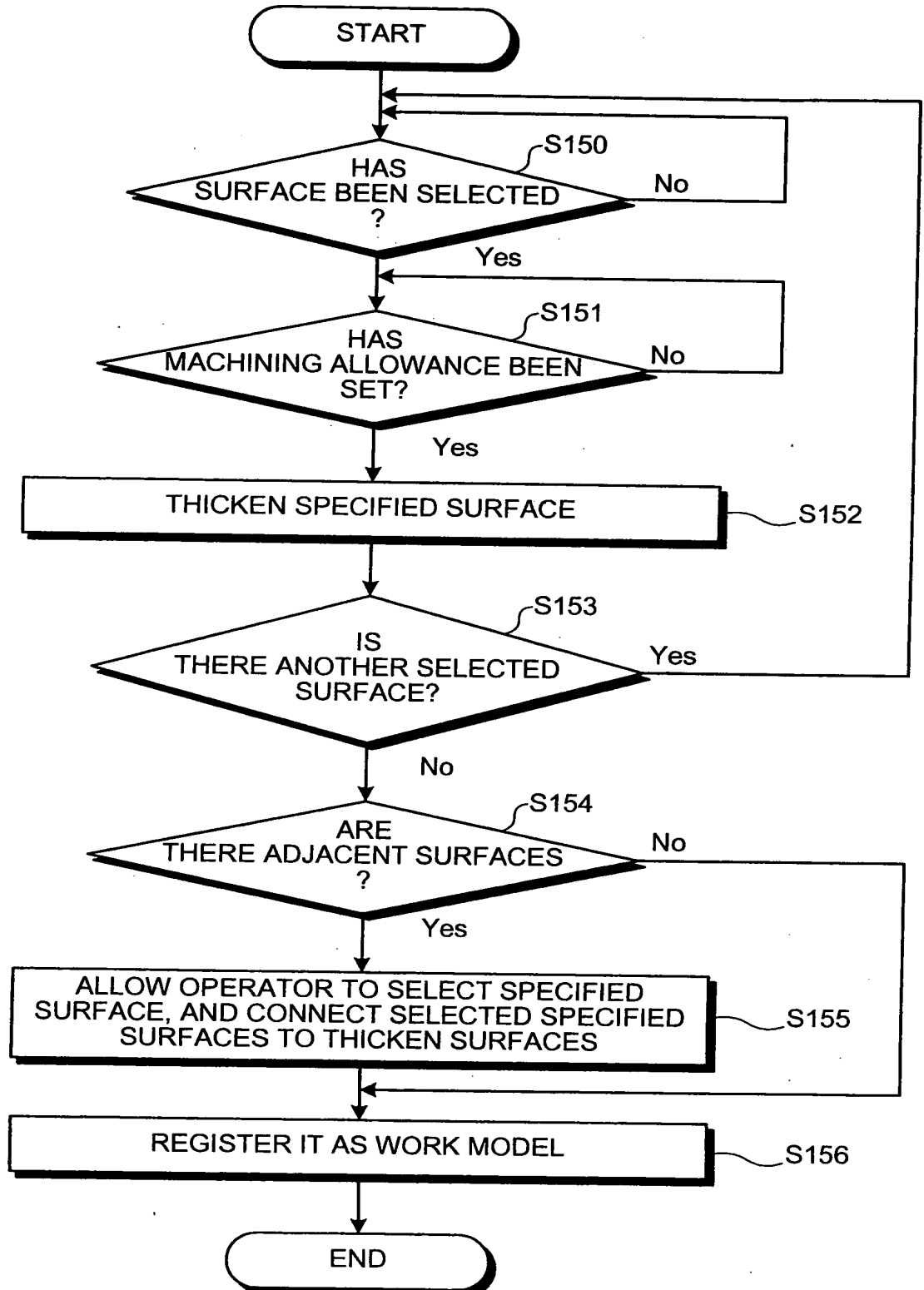
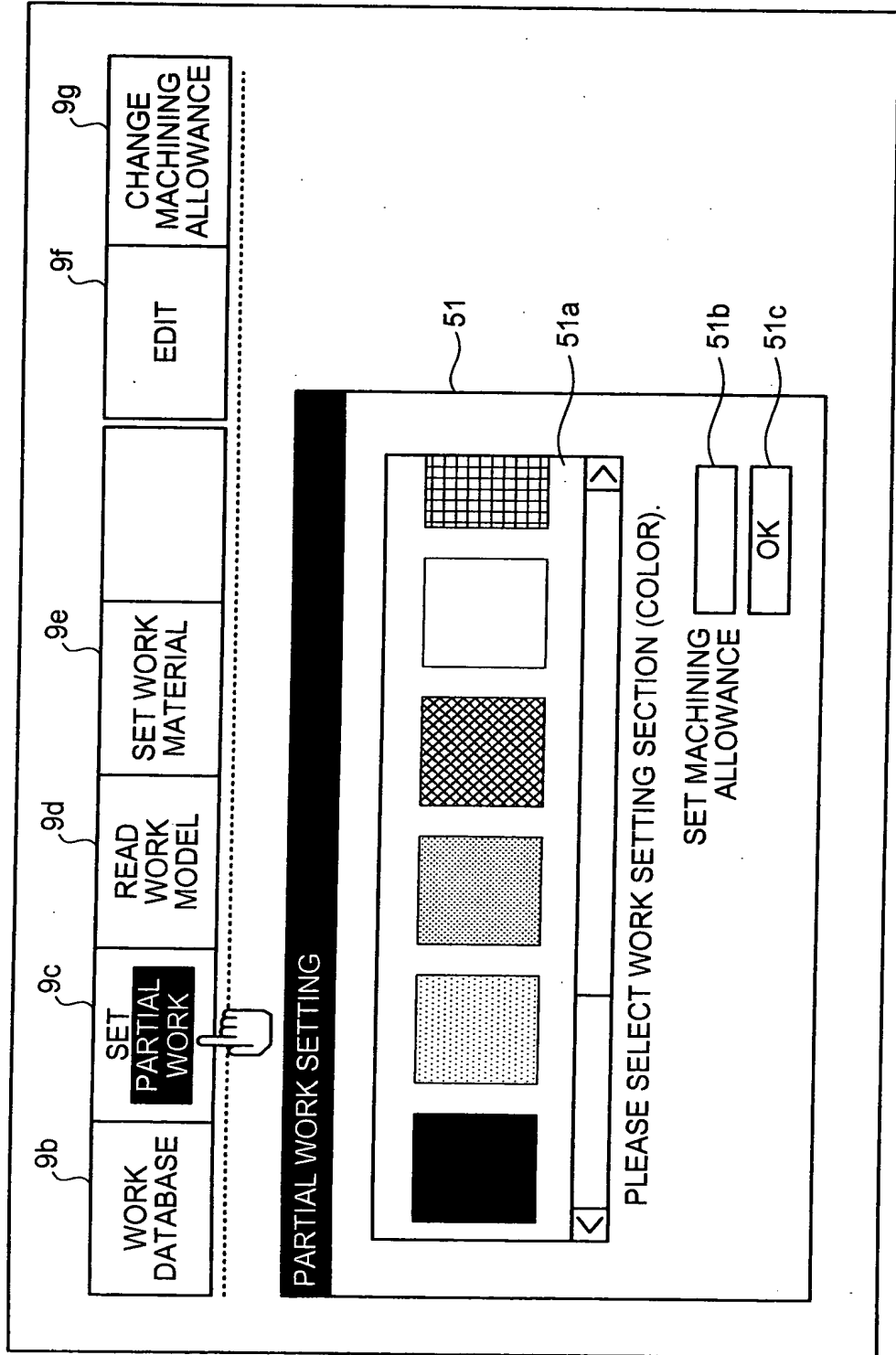


FIG.20



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FIG.21

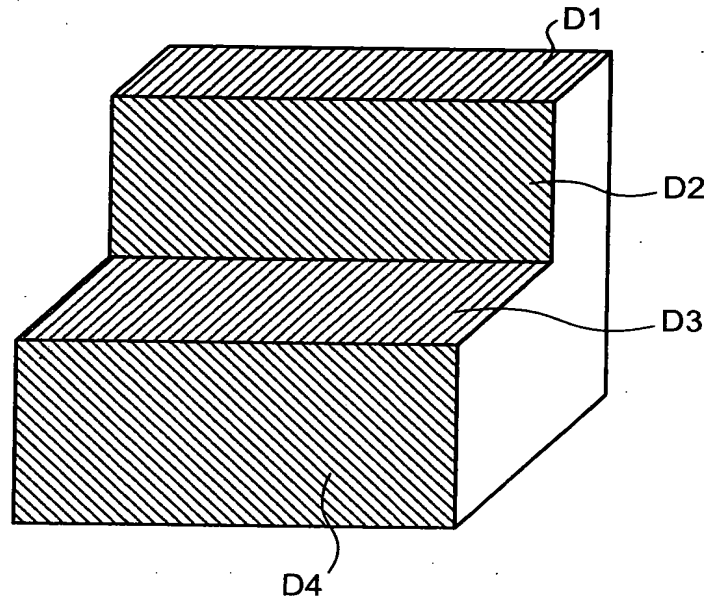
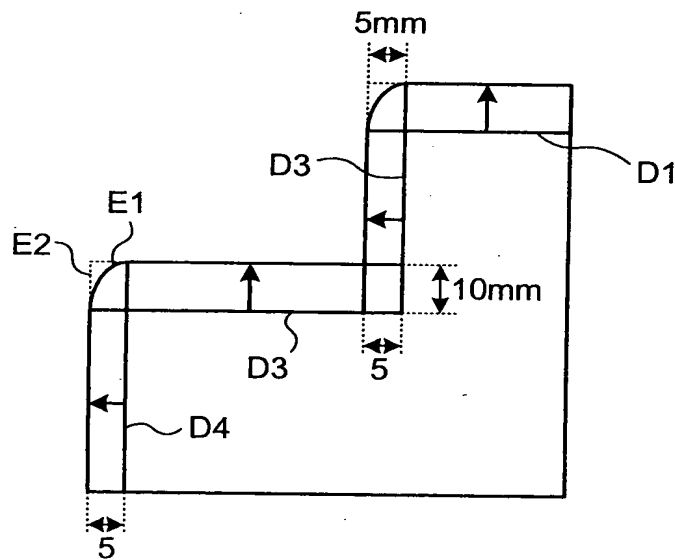


FIG.22



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FIG.23

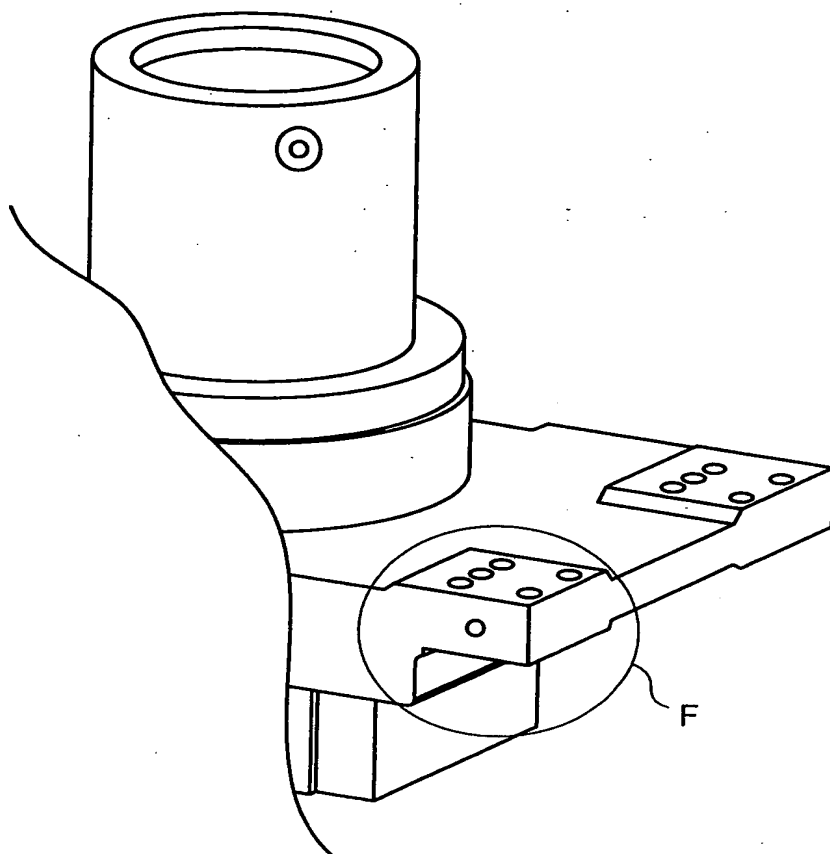


FIG.24

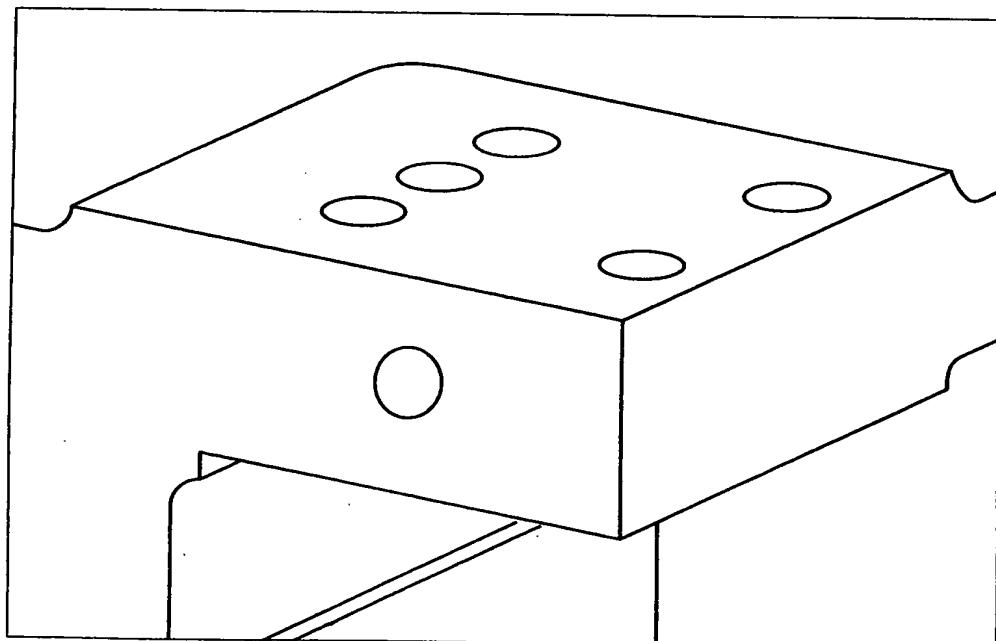
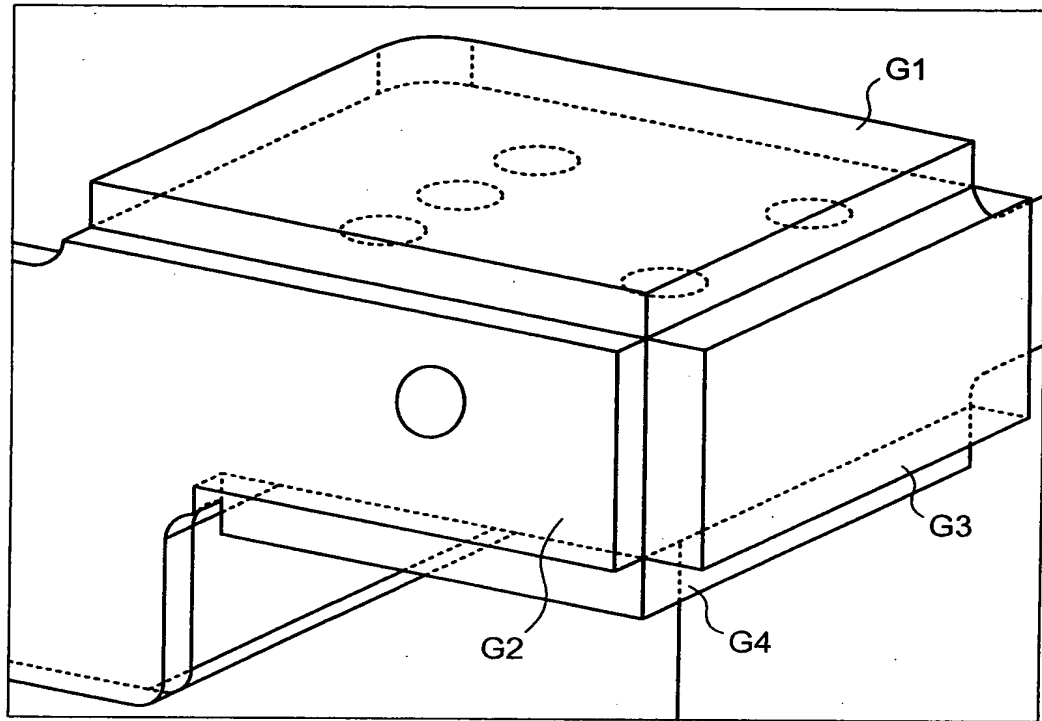


FIG.25



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FIG.26

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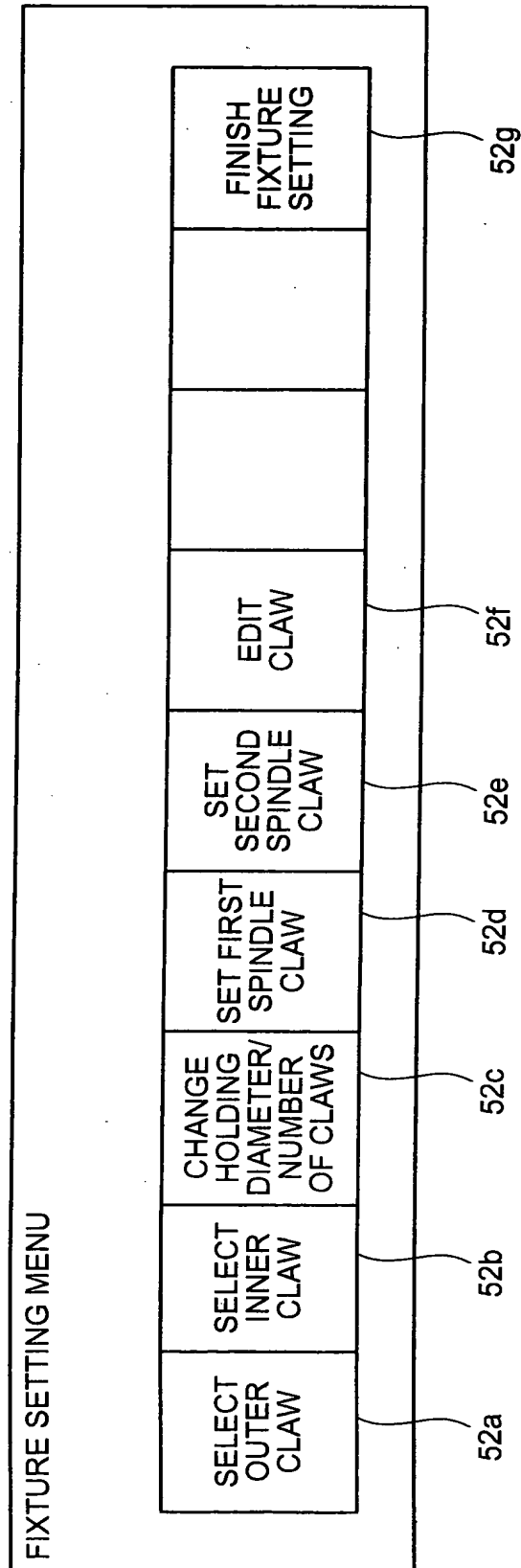




FIG.27

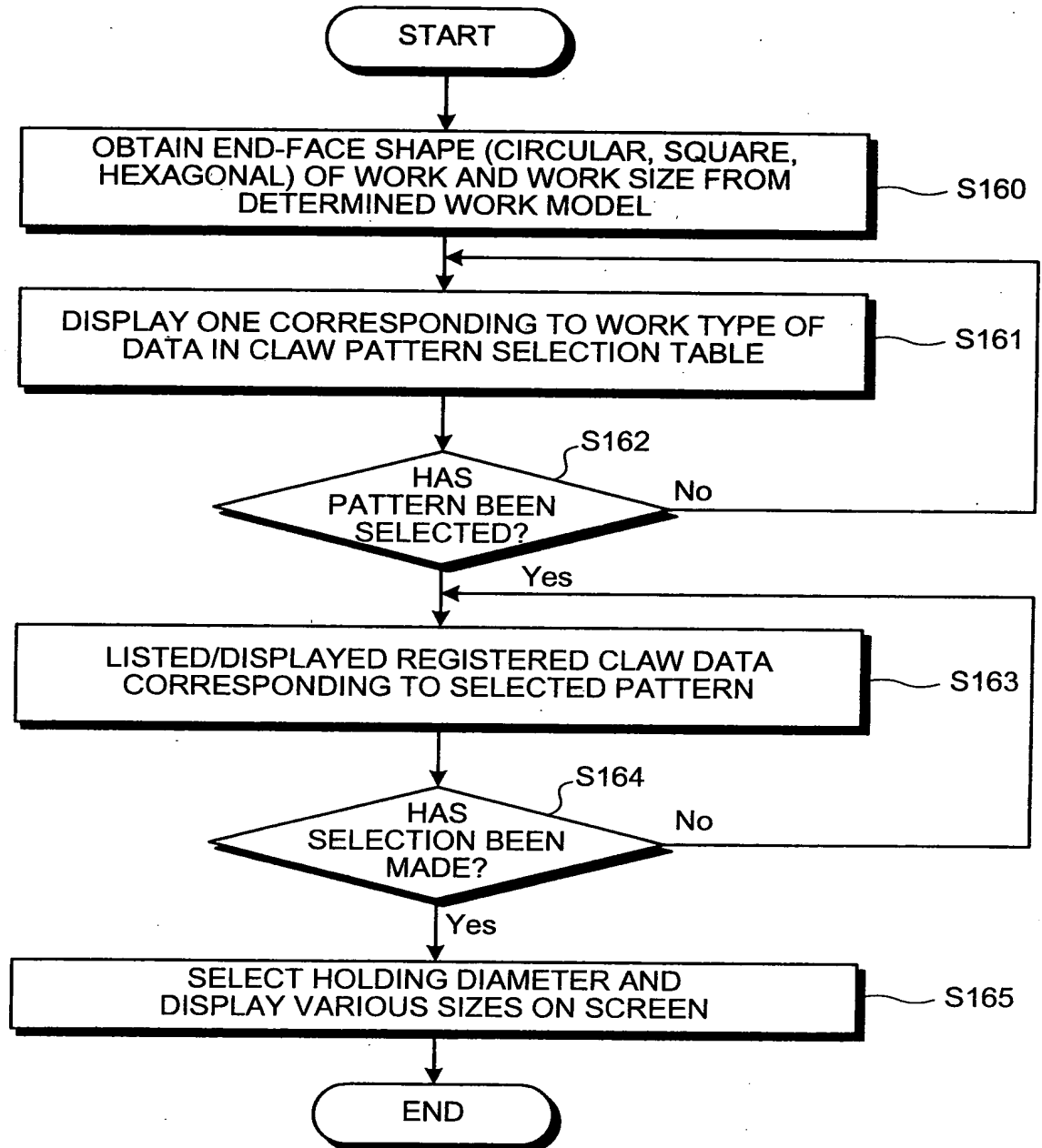
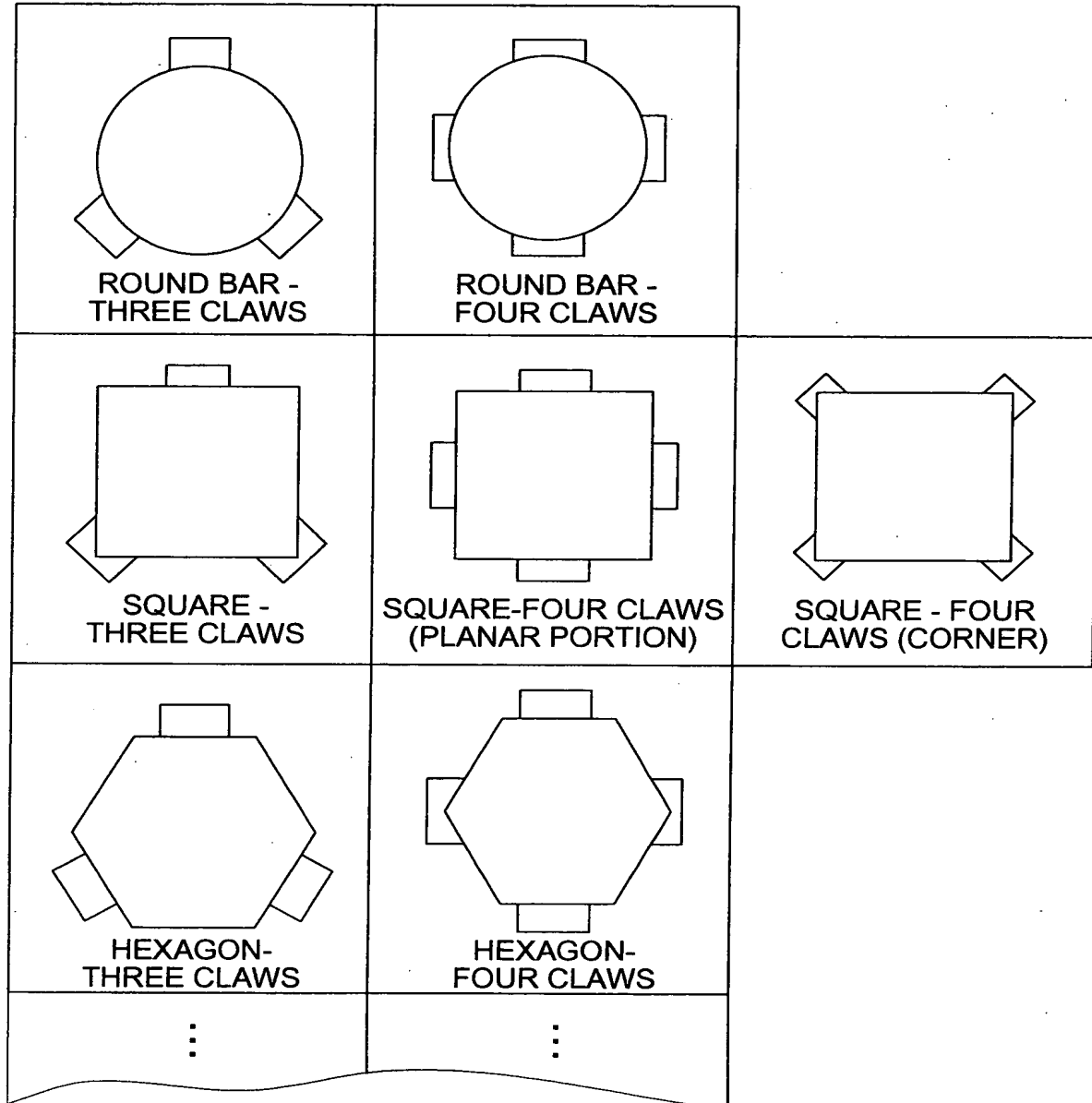


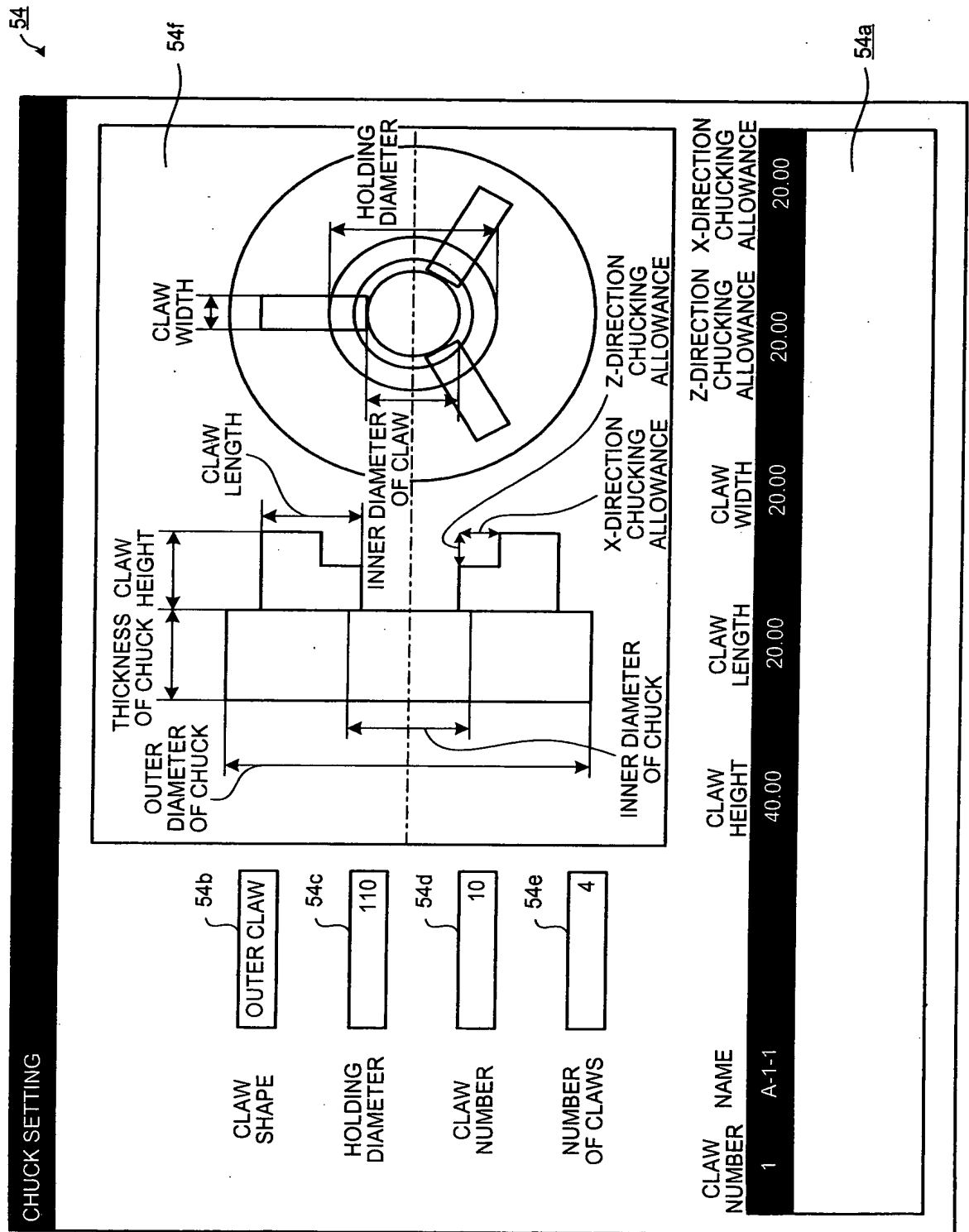
FIG.28

53  
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FIG.29



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FIG.30

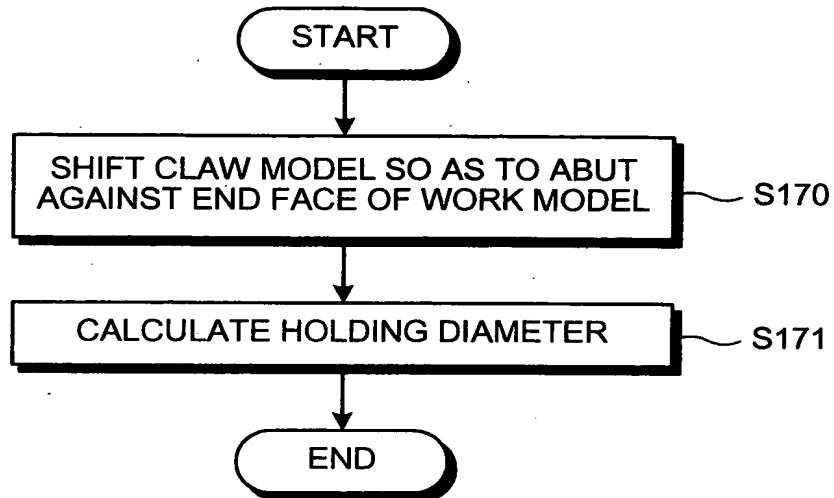


FIG.31

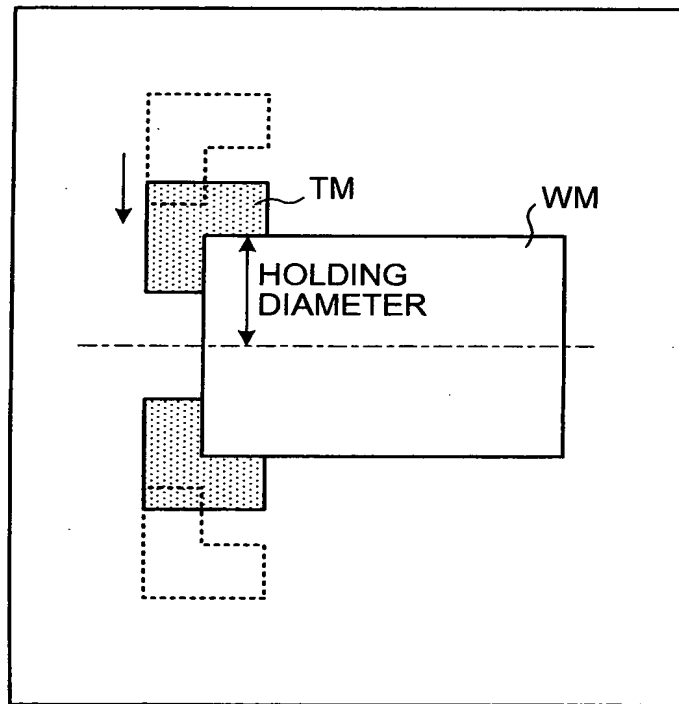


FIG.32

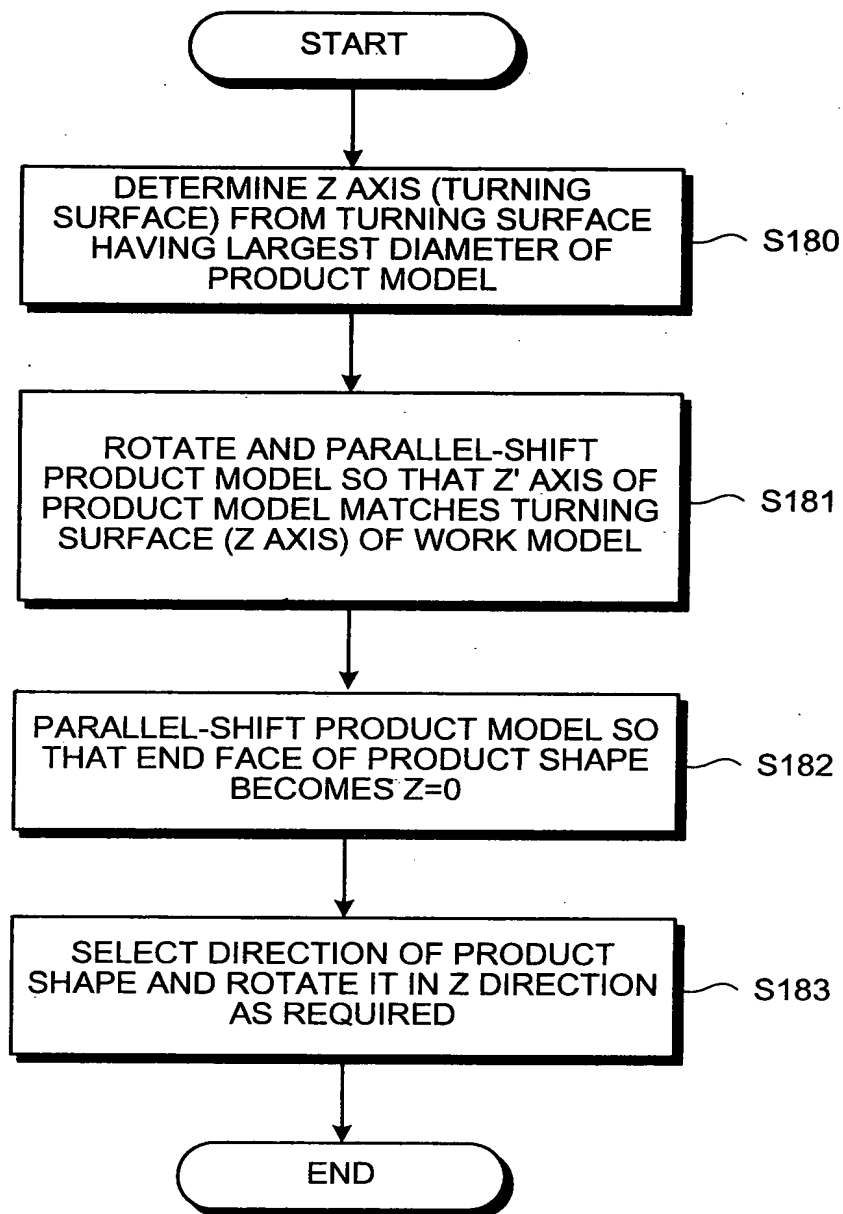


FIG.33

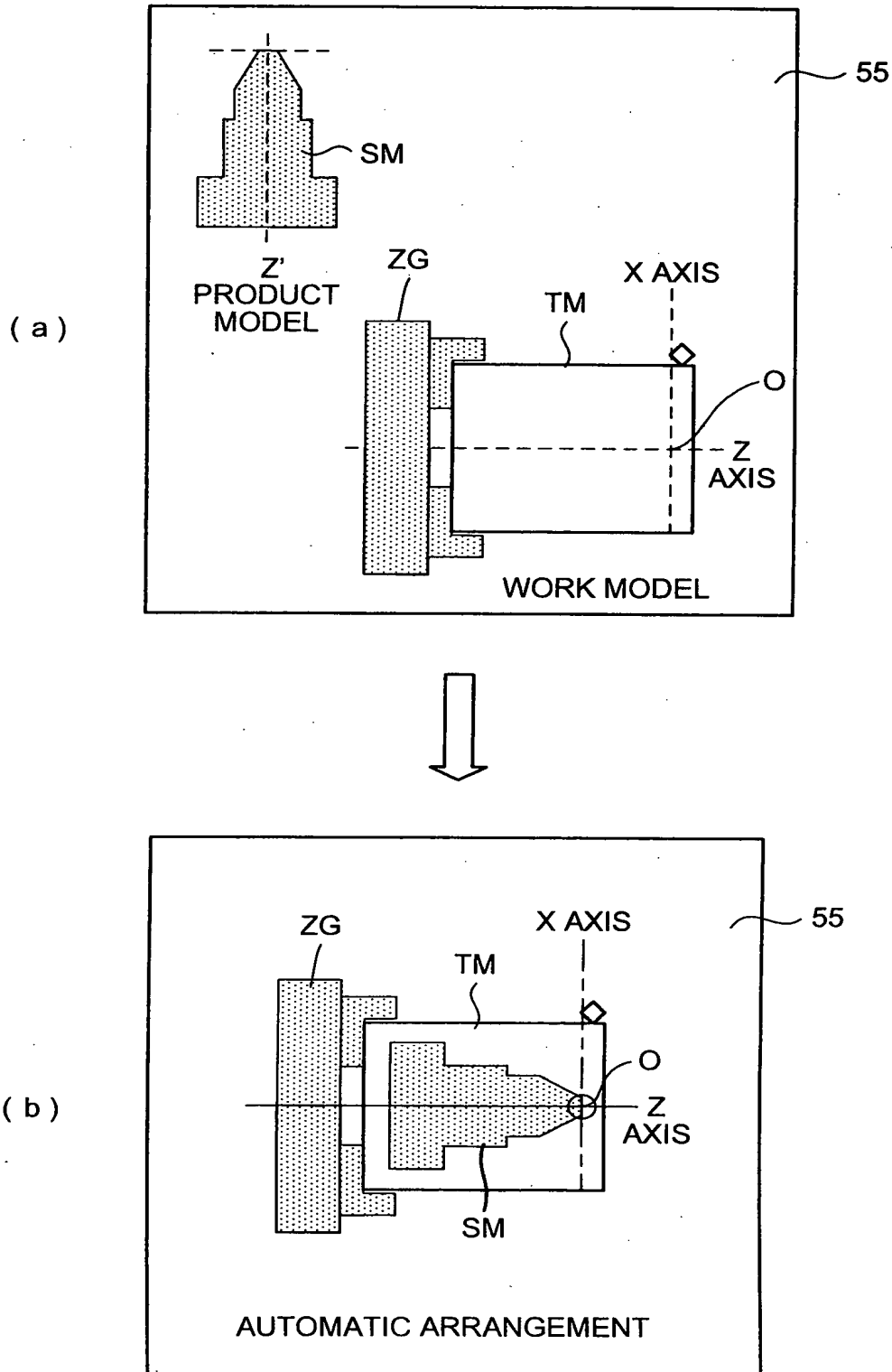


FIG.34A

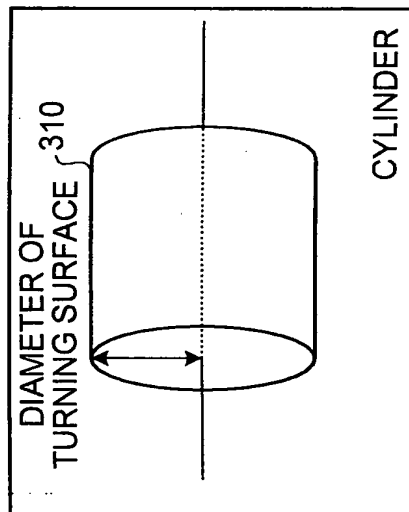


FIG.34B

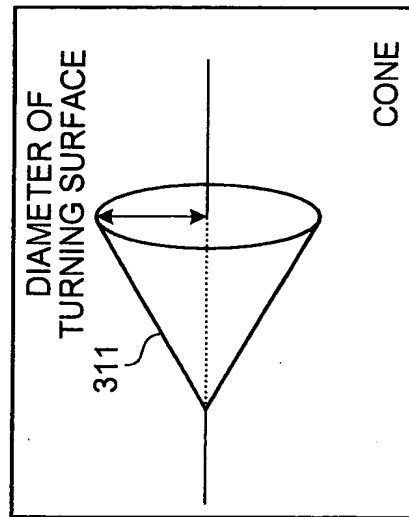


FIG.34E

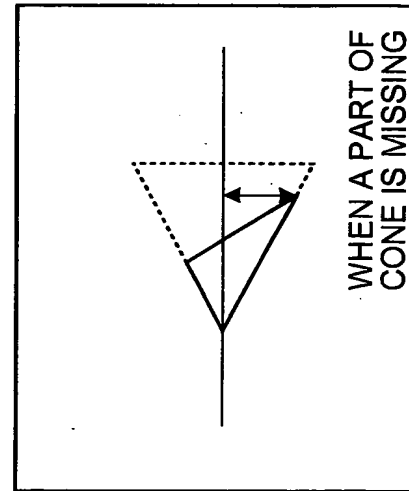


FIG.34C

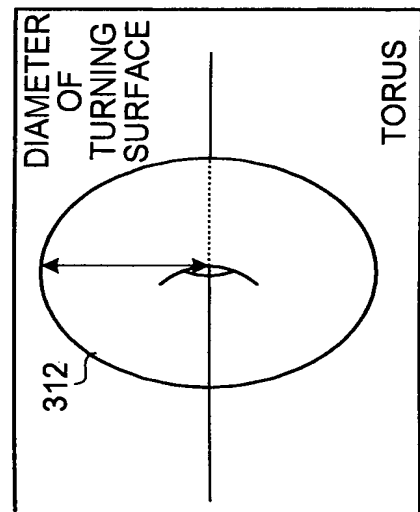


FIG.34D

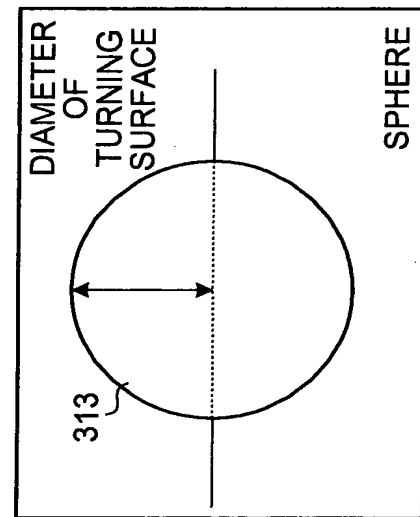


FIG.35

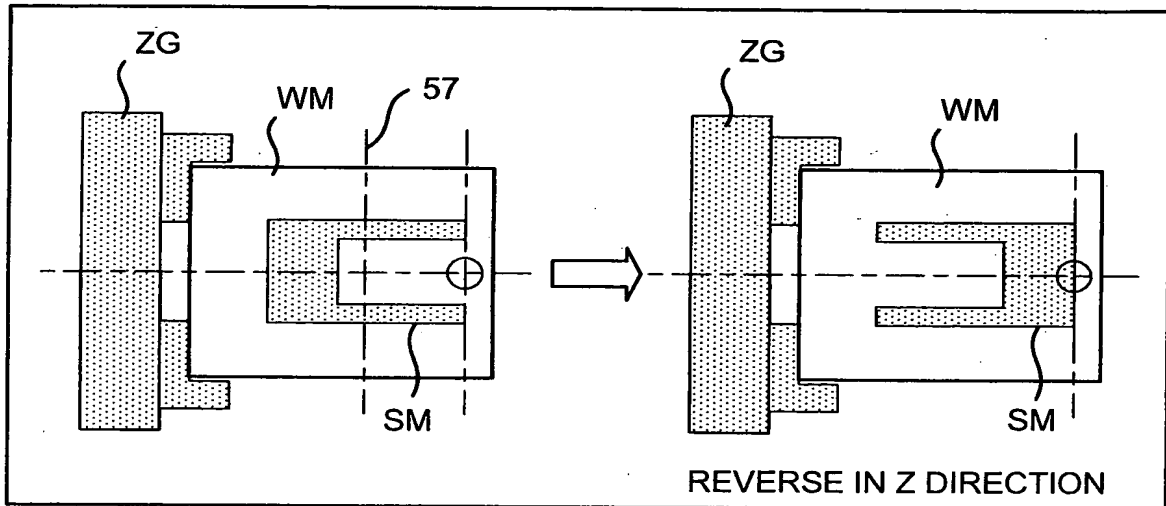




FIG.36

X-AXIS PARALLEL SHIFT	Y-AXIS PARALLEL SHIFT	Z-AXIS PARALLEL SHIFT		X-AXIS ROTATION	Y-AXIS ROTATION	Z-AXIS ROTATION		FINISH SHAPE SHIFT	
-----------------------------	-----------------------------	-----------------------------	--	--------------------	--------------------	--------------------	--	--------------------------	--

FIG.37

SHAPE SHIFT

☒ PRODUCT SHAPE  
☐ WORK SHAPE  
☐ FIRST CHUCK SHAPE  
☐ SECOND CHUCK SHAPE

STEP AMOUNT 0

SHIFT AMOUNT 0

SHIFT

60  
61  
62  
63

FIG.38

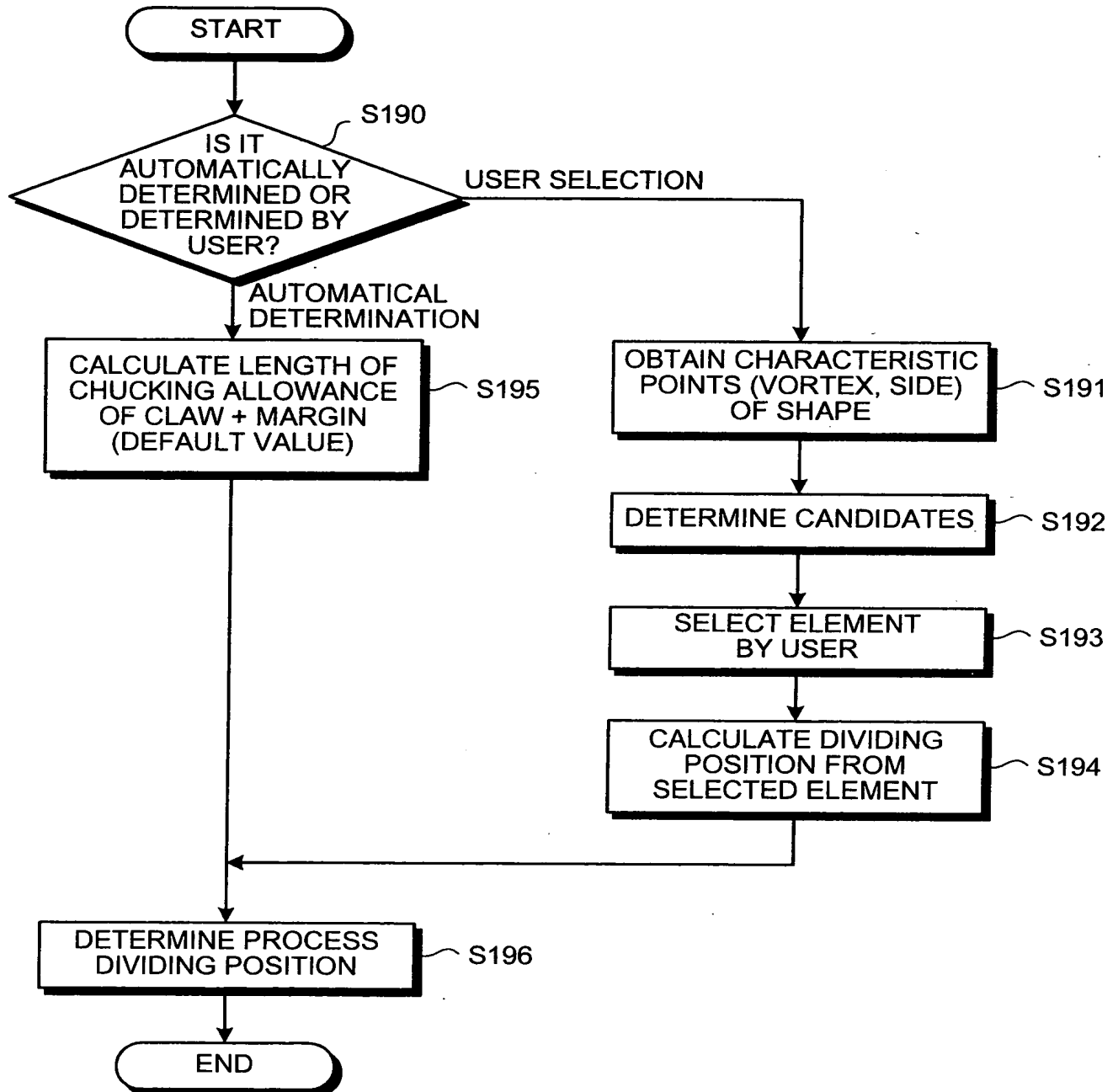


FIG.39

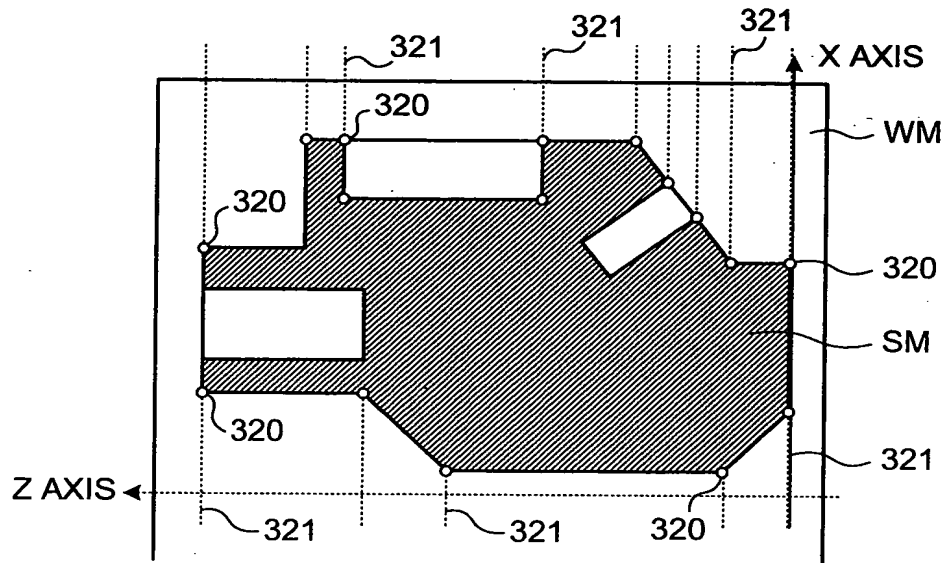


FIG.40

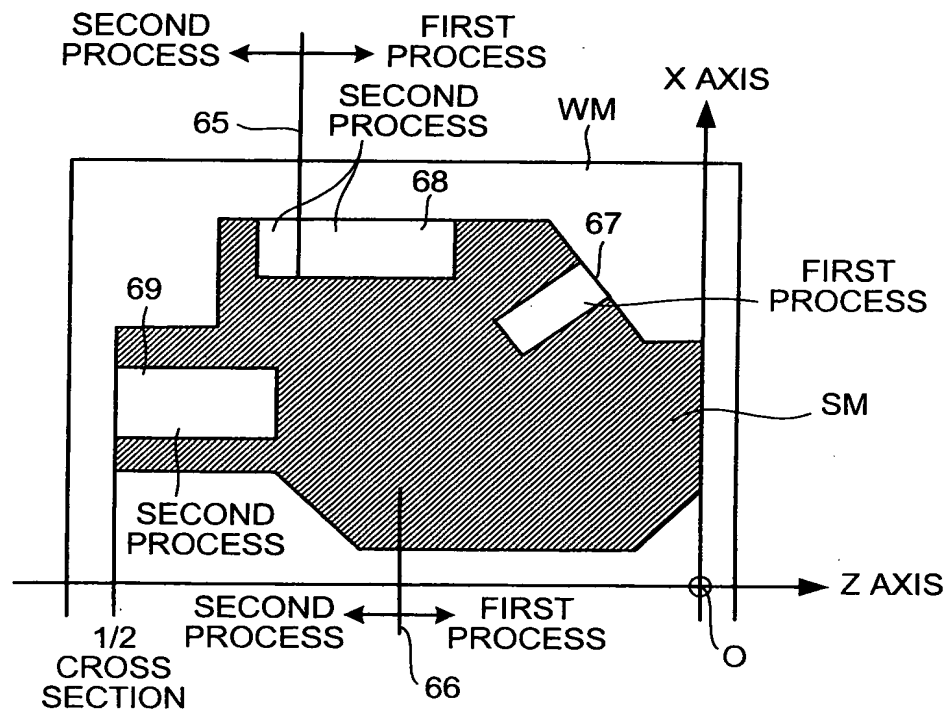
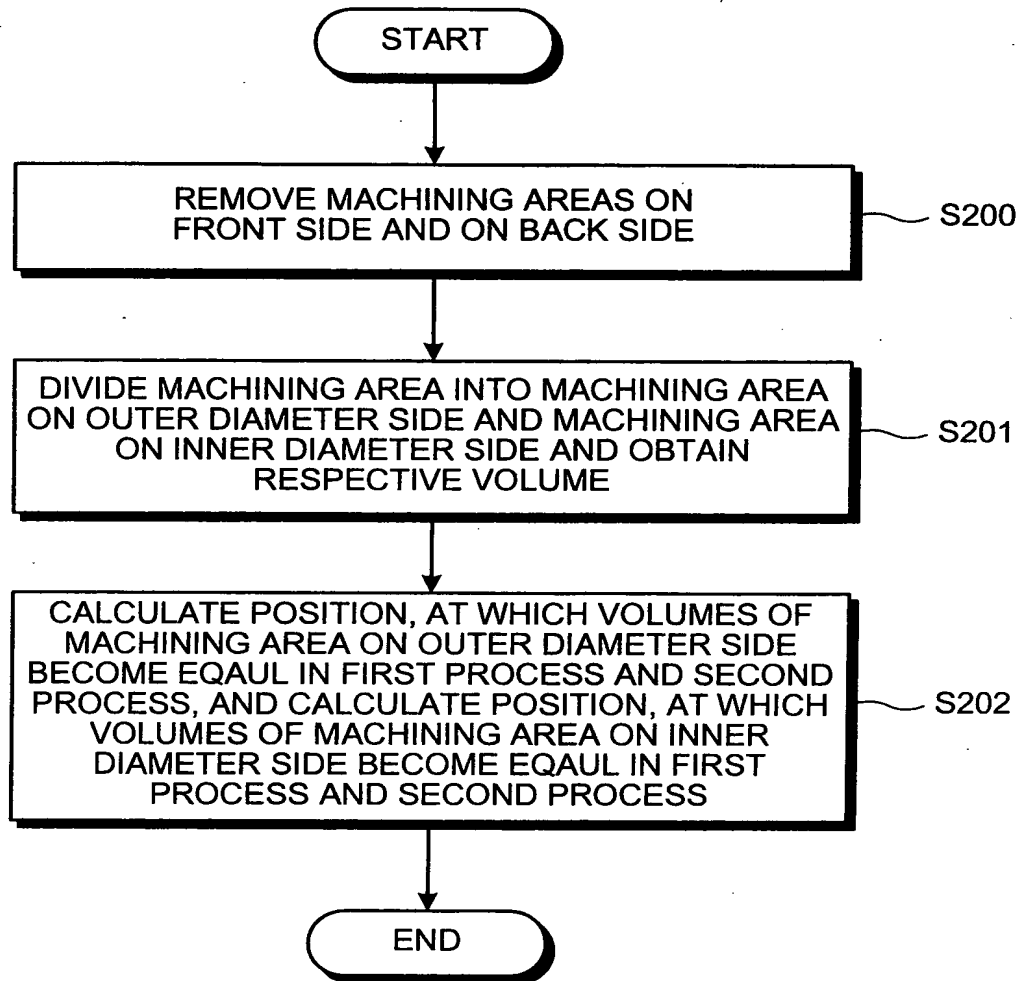


FIG.41



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FIG.42A

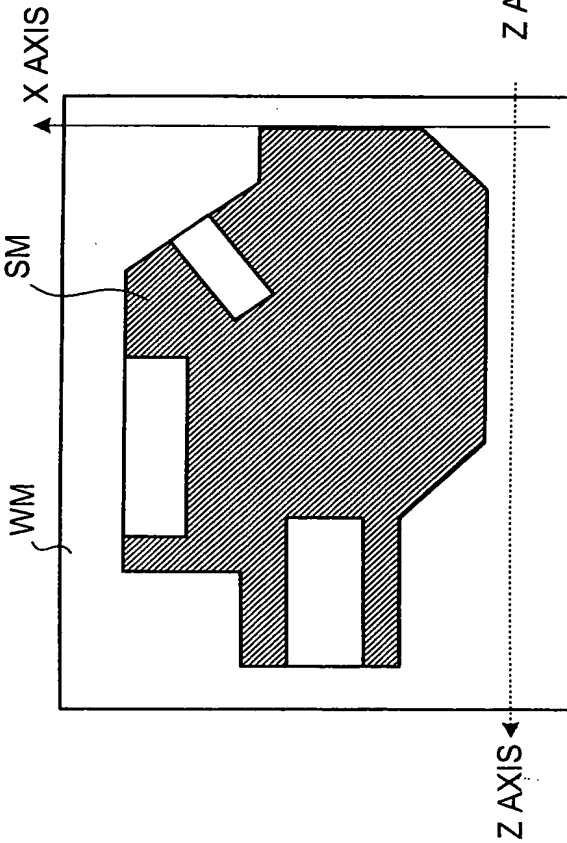


FIG.42B

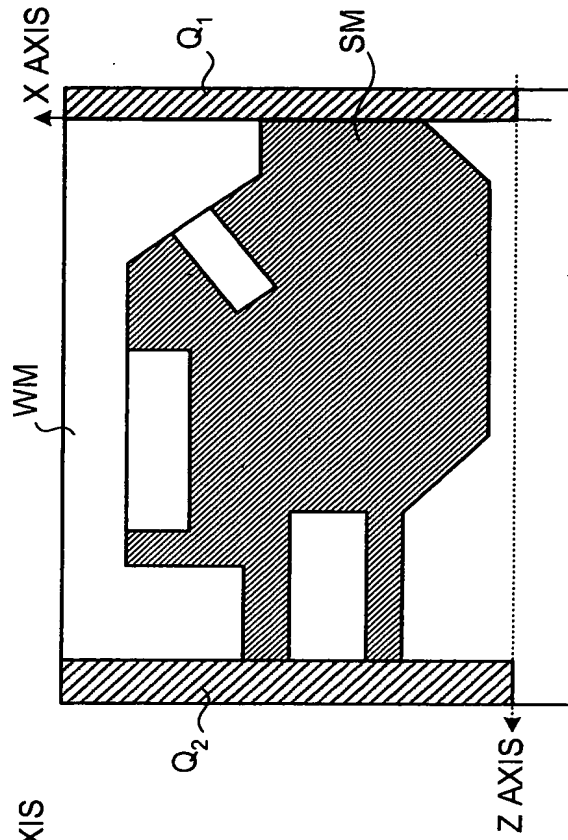


FIG.42C

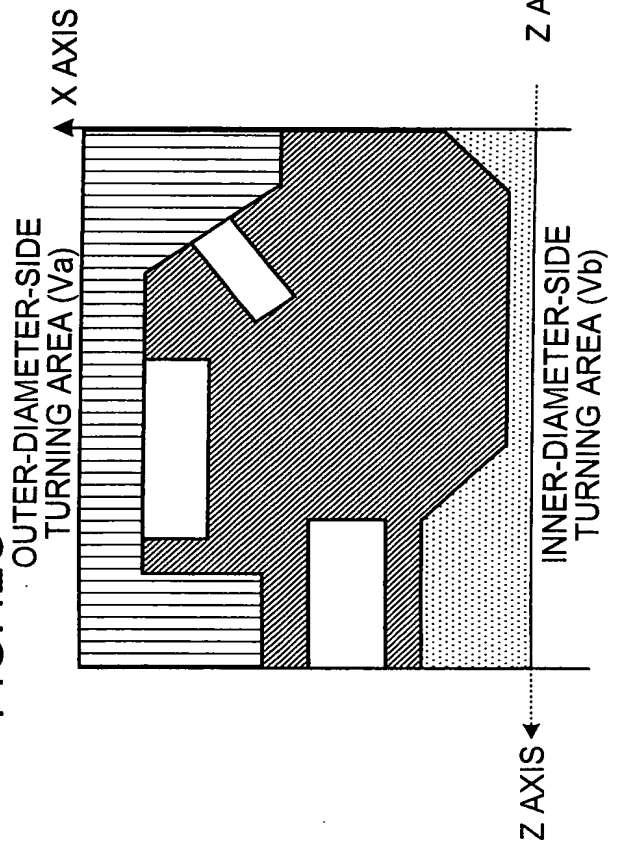


FIG.42D

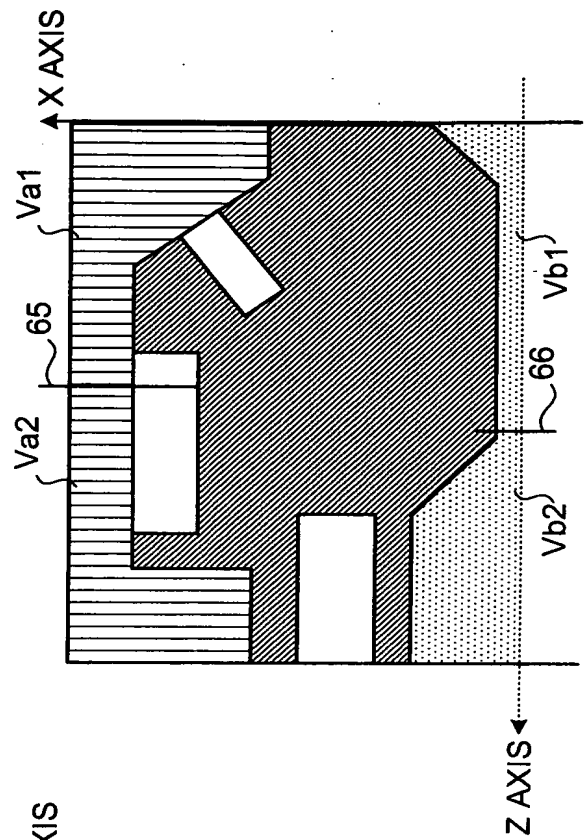
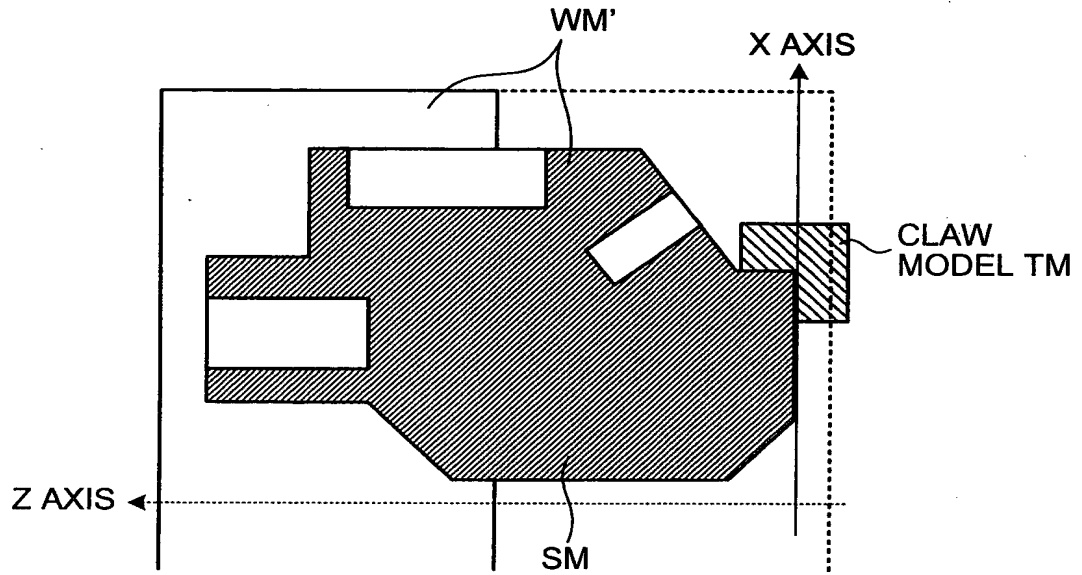


FIG.43



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FIG.44A

FIG.44B

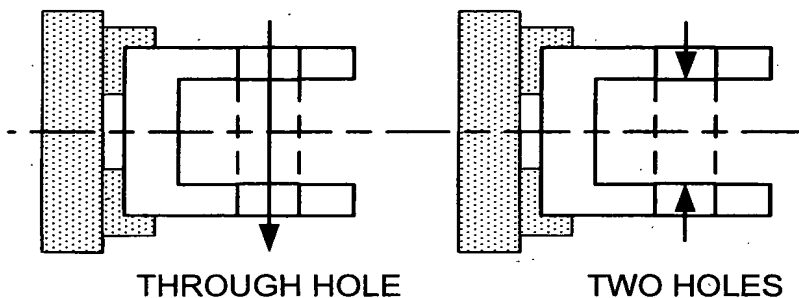


FIG.45

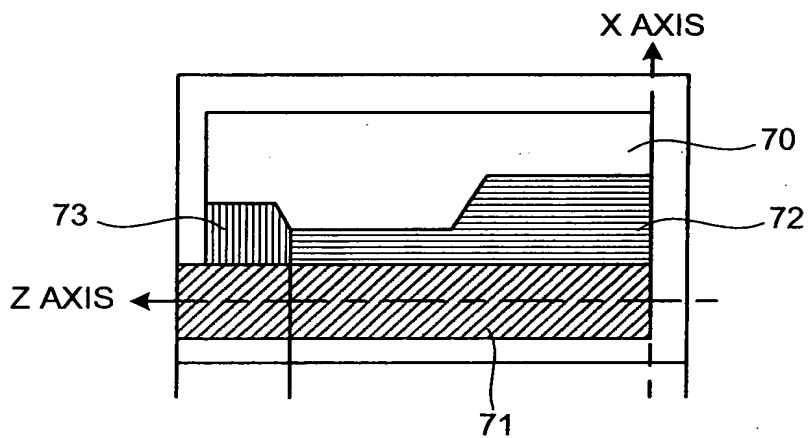




FIG.46

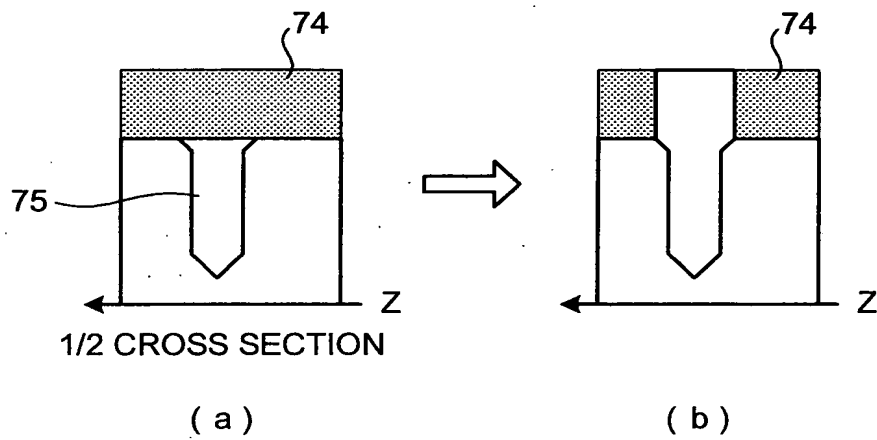


FIG.47

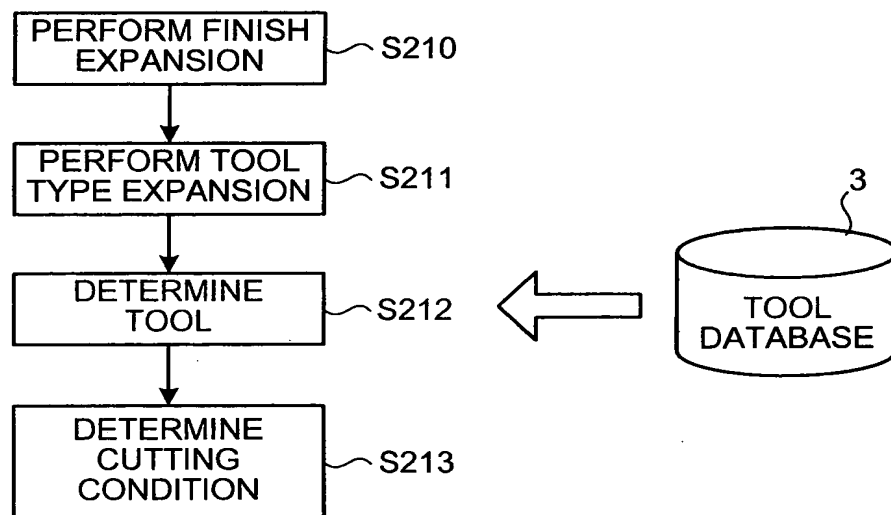
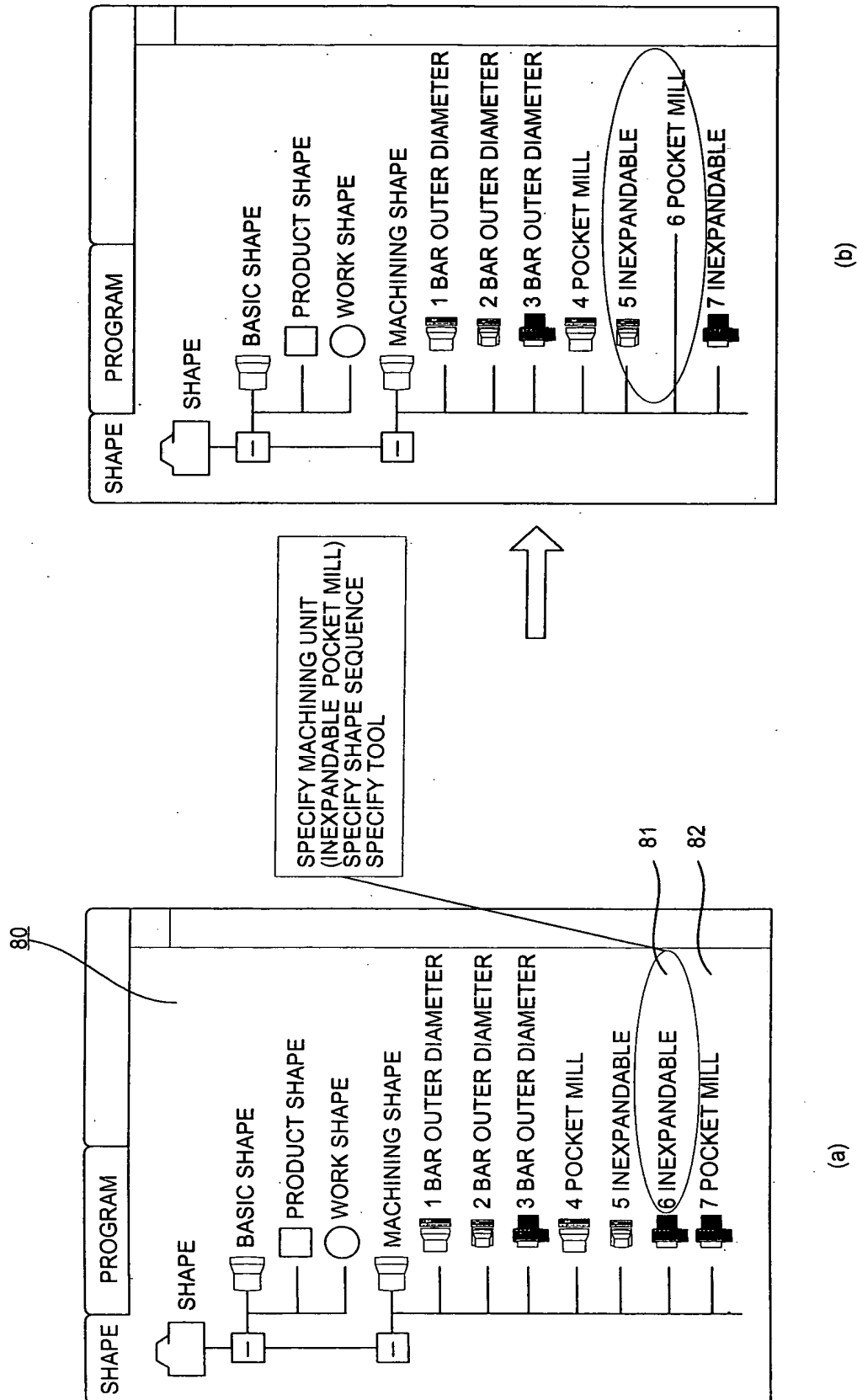


FIG.48



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FIG.49

80
85
89
84

86
87
91

SHAPE PROGRAM

PROGRAM

..... COMMON

..... 1 FACE MILL

..... 2 FACE MILL

..... 3 FACE MILL

..... 4 FACE MILL

..... END

UNo.	UNIT	MODE	ANGLE B	POSITION C	MACHINING ALLOWANCE-A	BOTTOM	WALL	AMOUNT OF FINISH-A	AMOUNT OF FINISH-R
2	FACE	ZY	◆	90.	30.	1	◆	0.	◆
MILL									
SNo.	TOOL	NOMINAL DIAMETER	APPROACH 1	APPROACH 2	METHOD	AFD	NOTCH-A	NOTCH-R	PERIPHERAL SPEED
R 1 FACEMILL									
FIG	SHAPE	SURFACE SHIFT R	Z	Y	RADIUS R/Q	I	J	P	CORNER
1	LINE	10.	0.	10.					
2	LINE	◆	40.	10.					
3	LINE	◆	40.	-10.					
4	LINE	◆	0.	-10.					
UNo.	UNIT	MODE	ANGLE B	POSITION C	MACHINING ALLOWANCE-A	BOTTOM	WALL	AMOUNT OF FINISH-A	AMOUNT OF FINISH-R
3	FACE	ZY	◆	90.	30.	1	◆	0.	◆
MILL									
SNo.	TOOL	NOMINAL DIAMETER	APPROACH 1	APPROACH 2	METHOD	AFD	NOTCH-A	NOTCH-R	PERIPHERAL SPEED
R 1 FACEMILL									
FIG	SHAPE	SURFACE SHIFT R	Z	Y	RADIUS R/Q	I	J	P	CORNER
1	LINE	10.	0.	10.					
2	LINE	◆	40.	10.					
3	LINE	◆	40.	-10.					
4	LINE	◆	0.	-10.					
UNo.	UNIT	MODE	ANGLE B	POSITION C	MACHINING ALLOWANCE-A	BOTTOM	WALL	AMOUNT OF FINISH-A	AMOUNT OF FINISH-R
3	FACE	ZY	◆	90.	30.	1	◆	0.	◆
MILL									
SNo.	TOOL	NOMINAL DIAMETER	APPROACH 1	APPROACH 2	METHOD	AFD	NOTCH-A	NOTCH-R	PERIPHERAL SPEED

FIG.50

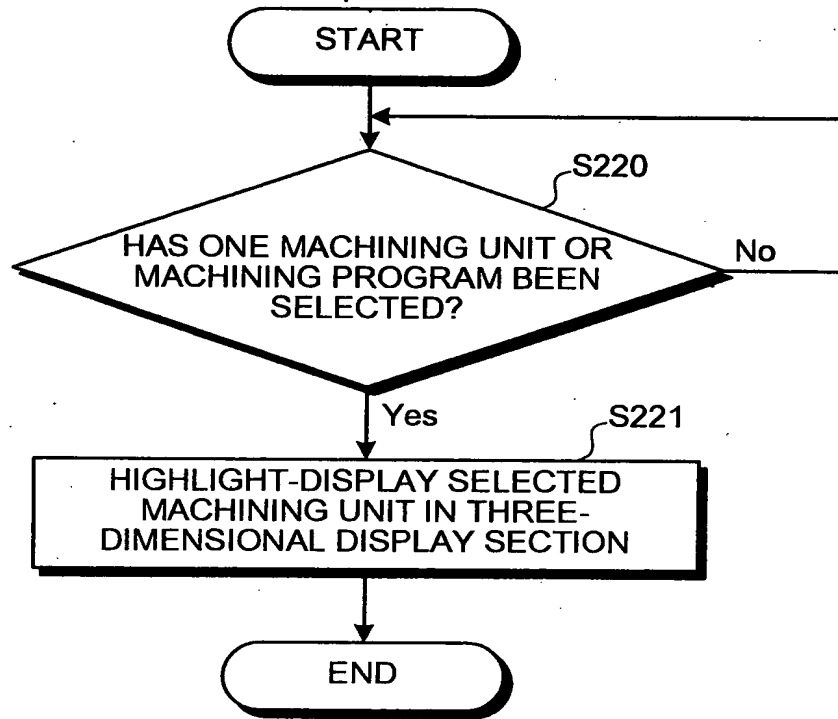


FIG.51A

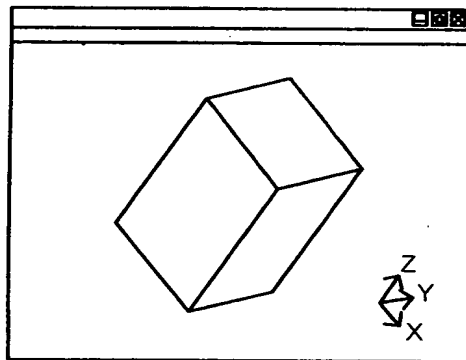


FIG.51B

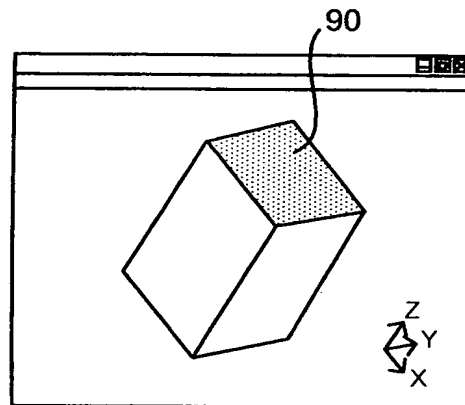
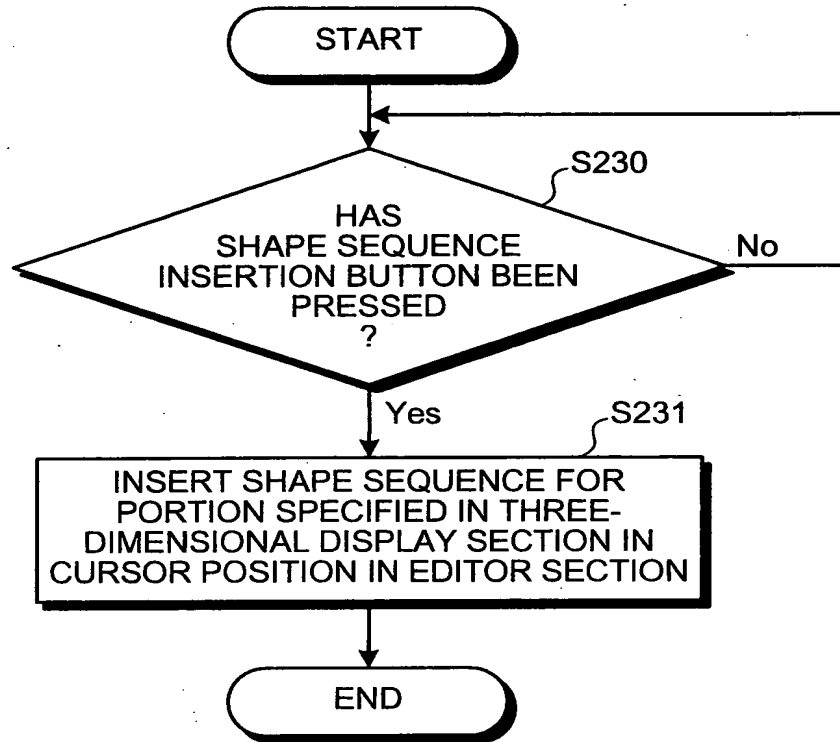


FIG.52



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FIG.53

UNIT	MODE	INEXPANDABLE	Y	SURFACE SHIFT Z	SURFACE SHIFT R	X	Y	RADIUS R/	I	J	ANGLE B	ANGLE C
1	LINE		0		0	18.487	-29.602				0	0
2	(SUPPORT)		◆		◆	18.487	-18.5				◆	◆
3	LINE		◆		◆	-18.487	-18.5				◆	◆
4	LINE		◆		◆	-18.487	-29.602				◆	◆
5	LINE		◆		◆	18.487	-29.602				◆	◆

FIG. 54

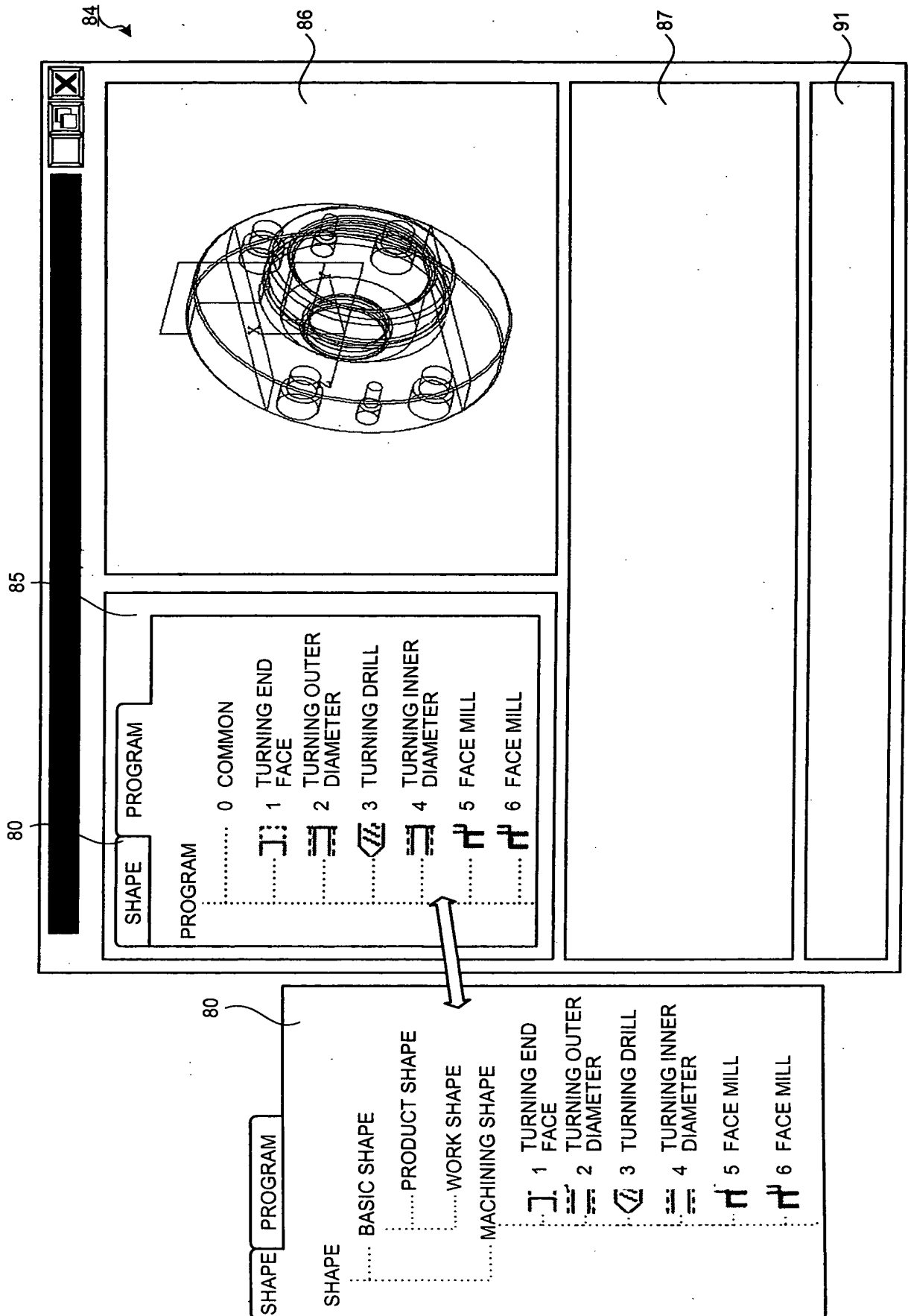


FIG.55

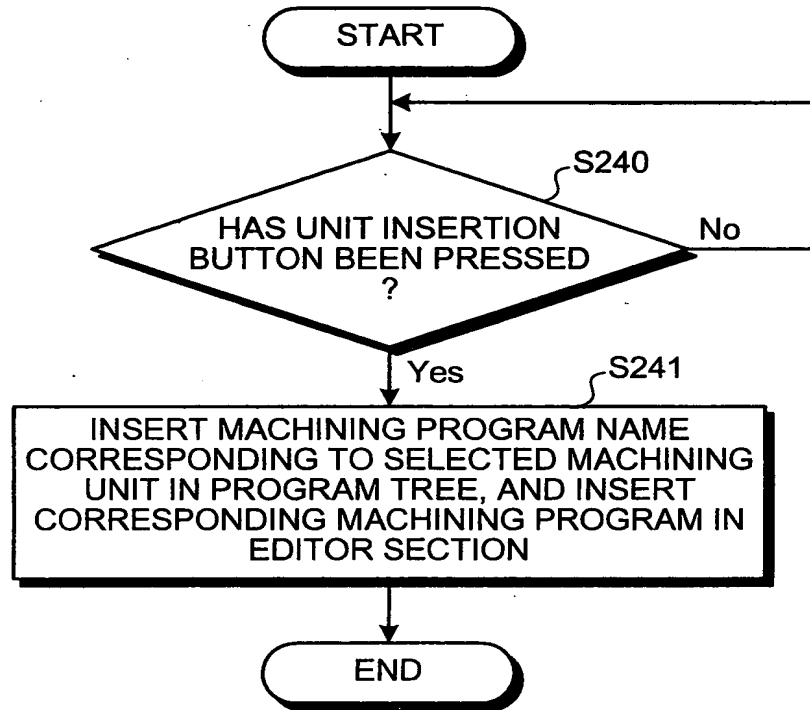
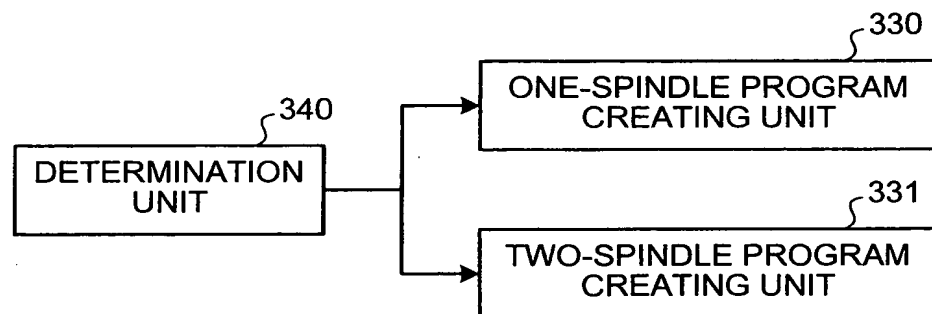


FIG.56





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FIG.57

